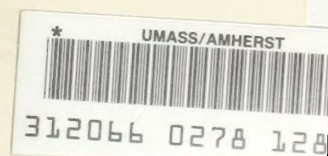


**Information on the
Environmental Impact Report
for
Massachusetts Turnpike Authority's
1988 Improvement
Program**

Prepared for
The Massachusetts Turnpike Authority
by
Howard, Needles, Tammen and Bergendoff
and
Barry Lawson Associates, Inc.



1. Intro.

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Massachusetts Turnpike Authority
Environmental Impact Report (EIR)
1988 Turnpike Improvement Program

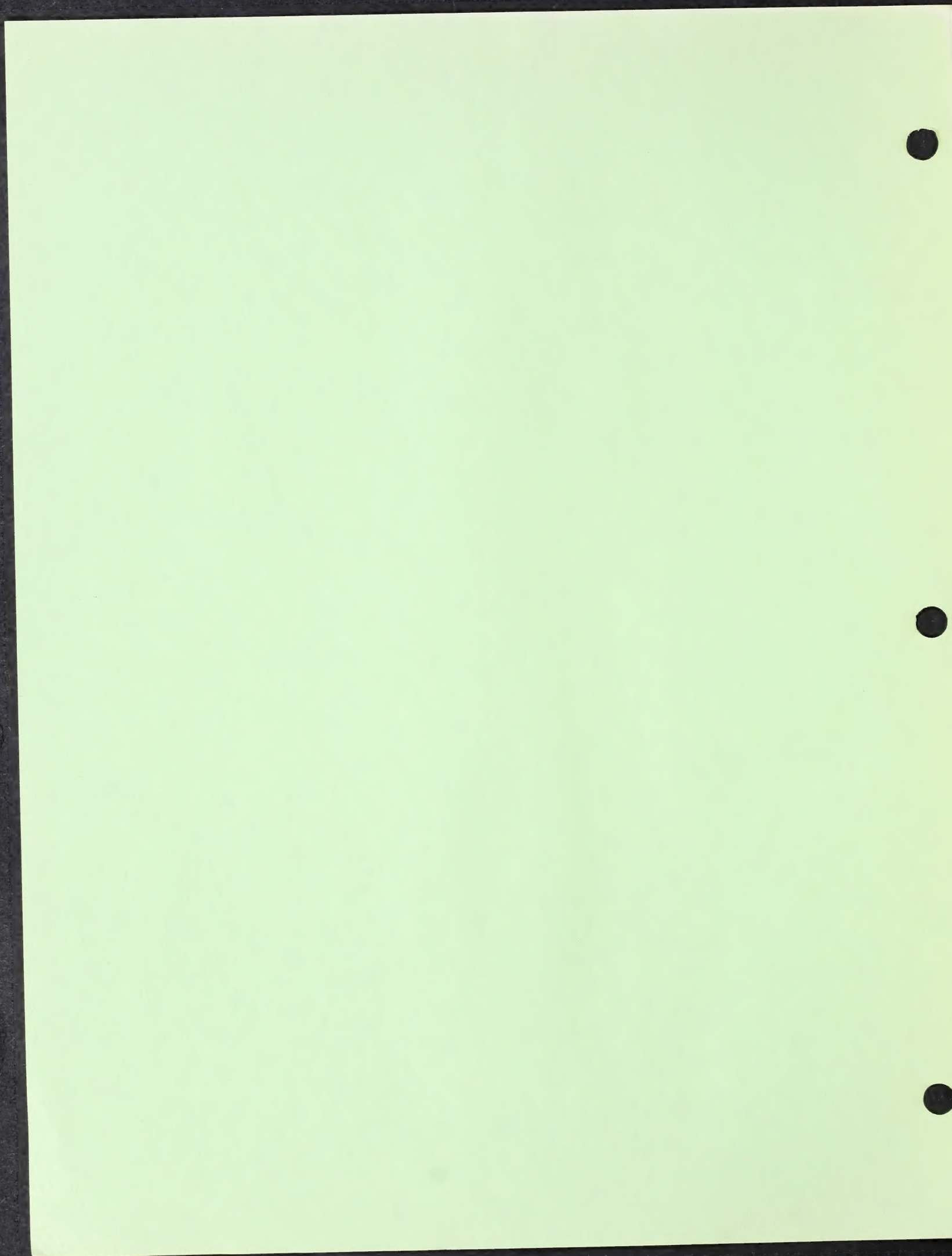
INFORMATION REPOSITORY

This Information Repository contains documents related to the preparation of an Environmental Impact Report (EIR) on the Massachusetts Turnpike Authority's 1988 Turnpike Improvement Program. The information will be updated periodically during the EIR process. For additional information, please contact:

Ann Jacobson
Community Relations Coordinator
Barry Lawson Associates
9 Main Street, P.O. Box 648
Concord, MA 01742
(617) 369-4213

TABLE OF CONTENTS

<u>SECTION #</u>	<u>SECTION NAME</u>	<u>MATERIAL IN SECTION</u>
1	Introduction	Table of Contents
2	Community Relations Plan	Description of community relations activities to be undertaken as part of the EIR process.
3.	MEPA Process	Material related to the state environmental review process (Massachusetts Environmental Policy Act, or MEPA), including Environmental Notification Forms (ENF's); EOEA Certificate; MEPA Decision.
4.	Local Liaison Group (LLG)	Material related to the meetings of the LLG, including agenda, meeting notes, handouts.
5.	Newsletter	Issues of the project newsletter, "Turnpike Improvement News".
6.	Technical Work Plans and Reports	Work plans for each element of the EIR; technical studies and reports.
7.	Public Meetings and Workshops	Material related to any informational meetings or workshops held, including agenda; meeting handouts; summary of issues discussed.
8.	Public Hearing	Material related to the formal public hearing held by the Authority during the review of the Draft EIR.



Comm. Rel.
2. Plan

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1923
1924

1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

COMMUNITY RELATIONS PROGRAM

May 1987

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
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Phone: (617) 369-4213

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LIBRARY

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COMMUNITY RELATIONS PROGRAM

The community relations program is an important element in the preparation of the Environmental Impact Report on the proposed 1988 Massachusetts Turnpike Improvement Program. It contributes to the development of a Report which acknowledges and responds to community concerns about the environmental consequences of the improvement program.

The community relations program performs two basic functions:

- o provides the six affected communities with information on the EIR process and the technical studies and analyses.
- o creates opportunities for the public to provide input to the Authority and its consultants while the EIR studies are underway.

Barry Lawson Associates, Inc. serves as community relations consultant to the project team. Ann Jacobson, the community relations manager, is the principal contact person for the public. She is available to work with the public and the project team and may be reached at P.O. Box 648, Concord, MA 01742 or by telephone at (617) 369-4213. A timeline illustrating how the community relations program is integrated with the preparation of the Environmental Impact Report is provided at the end of this document.

The community relations program is comprised of a number of elements categorized by the two basic functions: **information** and **consultation**.

INFORMATION

Mailing List

A computerized mailing list has been developed to provide a method of contacting concerned citizens, government officials, organizations, and the news media. The list is composed of names obtained from the Massachusetts Turnpike Authority, the Executive Office of Environmental Affairs' MEPA Unit, attendance lists from public meetings, local governments, established citizen groups, and solicitation through the project newsletter. The 700-person mailing list is segmented into categories, by type of group and locality. The list is updated at frequent intervals.

Project Newsletter

A newsletter, entitled Turnpike Improvement News, explains the project, provides periodic updates of its progress, and highlights MTA programs concerning environmental issues. The newsletter is distributed to the entire mailing list and is available for distribution at meetings.

Other Information

Background material on the Turnpike, its use, and the responsibilities of the Authority will be distributed periodically in the study area, to regulatory agencies and to the media. In addition, summaries of selected technical reports will be prepared.

Information Repositories

Local repositories for project information have been established in the main public libraries and town offices in the six affected communities. The repositories are supplied with information for public use and include such items as the Environmental Notification Forms and MEPA Certificates for the project, newsletters, and meeting notes from public meetings and the Local Liaison Group. Additional repositories are located at the State House Library, the Transportation Library at Park Plaza in Boston, and at the Authority's Engineering Offices in Weston (the latter contains all data and computer output generated during the environmental studies.) Materials are stored in a large loose-leaf notebook at each site. The repositories are regularly updated and their use promoted in the newsletter and at public meetings.

CONSULTATION

Local Liaison Group (LLG)

A Local Liaison Group has been formed with one member and an alternate from each of the six communities. This group serves four major functions:

(1) communication link to communities on the elements of the project and on study progress; (2) review of methodologies and monitoring of technical studies, (3) analysis and critique of conclusions and recommendations; (4) advice on the community relations program. The Group meets monthly to address an agenda which grows out of the progress of the work and suggestions of LLG members. Field trips will be organized for the group as needed.

Liaison with Community

Lawson Associates serves as liaison between the project team and the communities. Introductory meetings were held between project team members, the community relations manager, and officials from the concerned communities to establish lines of communication. The community relations manager facilitates and coordinates requests for information and submission of comments or suggestions from the public. A project phone number and post office box have been established to enable the public to communicate with the project team. The Authority and its consultants will work with the print and broadcast media, assisting reporters in covering the project accurately and in a timely fashion.

Information Meetings

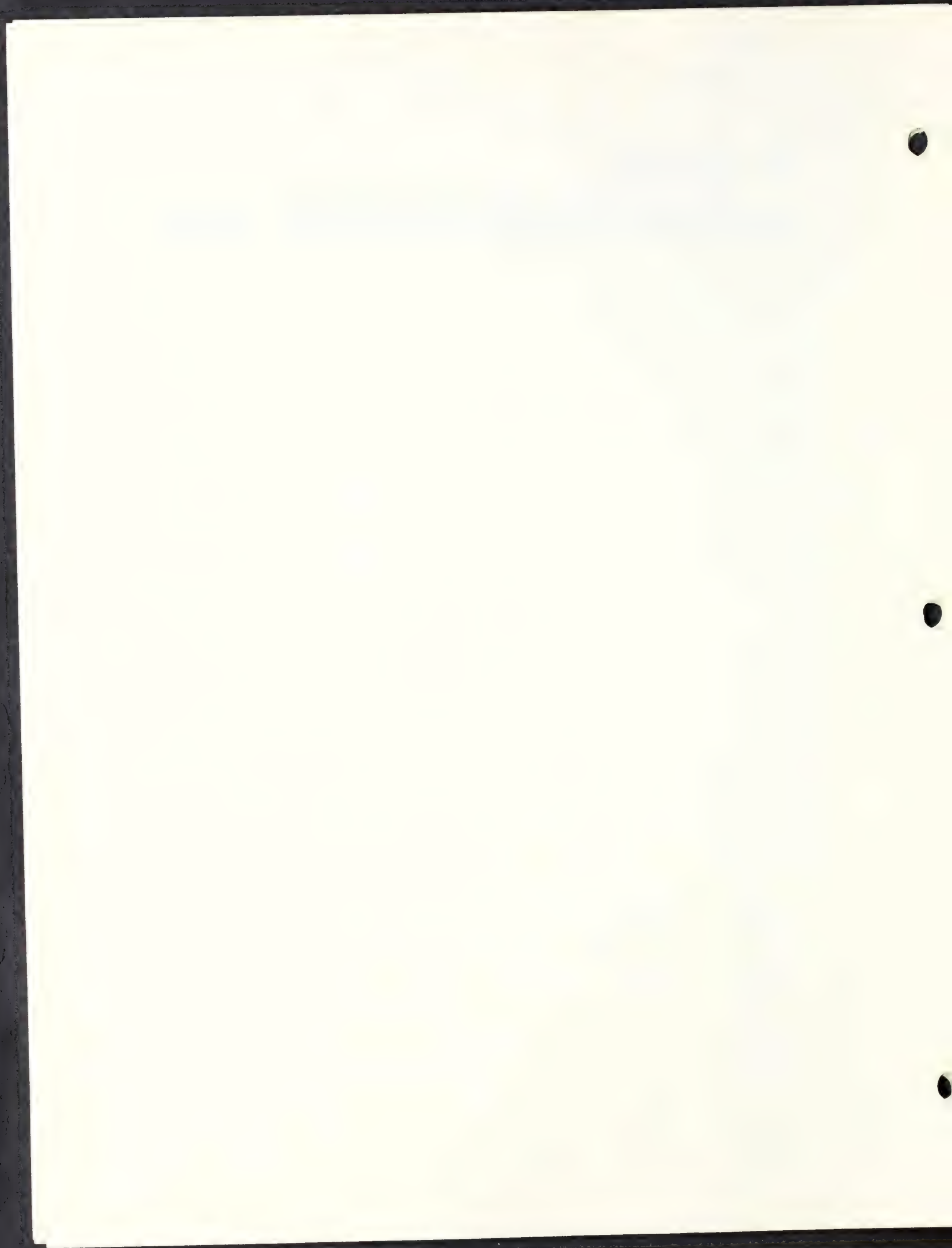
Information meetings may be used periodically to provide an update of project progress to address issues which are of concern to particular groups or communities. A public information meeting will be held prior to the issuance of the Draft EIR. The meeting will summarize Draft EIR conclusions, and answer questions raised by the public about impact analyses.

Public Hearing

A public hearing will be held to gather written and oral public comments on the Draft EIR. The hearing will be held during the MEPA 30-day public comment period.

Public Issue Summaries

Summaries will be prepared of key issues raised at the public meetings/hearings and of responses offered by the Turnpike Authority and its consultants. These documents will be available for public distribution and placed in repositories.



TASK

Dec. Jan. Feb. March April May June July Aug. Sept. Oct. Nov. Dec.

1. Mailing List Assemble Update Periodically

2. Project Newsletter 11 ☒ Project Intro. 12 ☒ Field Work 13 ☒ Impacts (Progress Rept) Analysis 14 ☒ Impact Analysis 15 ☒ DEIR Public Hrg. 16 ☒ Hrg. Issues Responses 17 ☒ Final MEPA Decision

3. Other Information, Education Summaries of Technical Reports DEIR Summary Press Info.

4. Information Repositories Prepare Distribute Update Periodically

5. Local Liaison Group Form (Meetings)

6. Liaison with Community Introductory Meetings As Needed

7. Information Meetings ☐

8. Public Hearing ☐

9. Documents Summarizing Issues ☐ ☒ ☒

10. Coordination with Project Team Regularly - as needed

EIR Schedule

Data Collection/Impact Analysis

☒ Prepare EIR

☐ Release DEIR

☒ MEPA Finding on DEIR

☒ Release FEIR

☒ MEPA Finding on FEIR





The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street

Boston, Massachusetts 02202

RECEIVED

OCT 1 1986

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

CHIEF ENGINEER'S OFFICE

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON THE

ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Massachusetts Turnpike Authority Projects

PROJECT LOCATION : Statewide

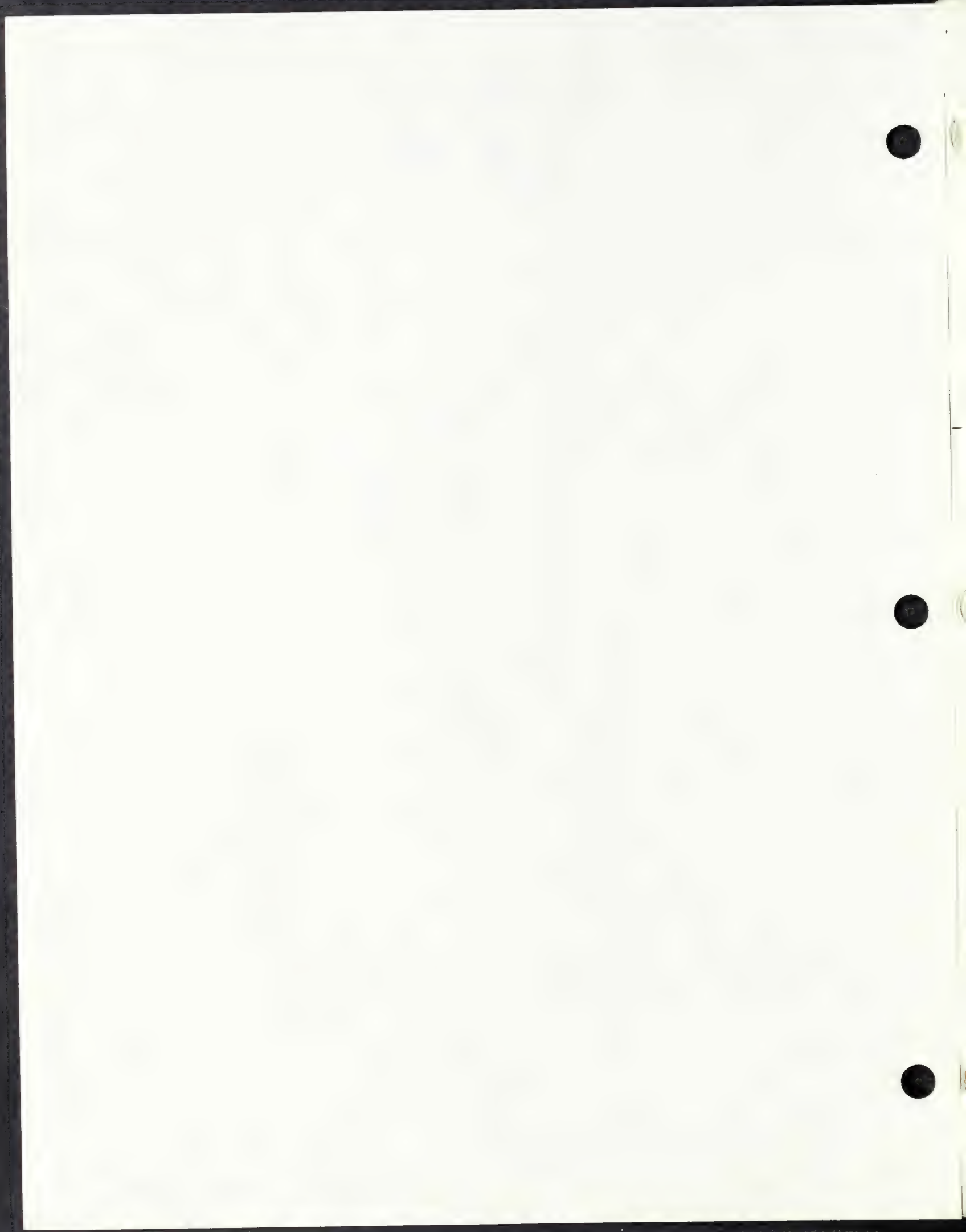
EOEA NUMBER : 6198A,B,C and D

PROJECT PROPONENT : Massachusetts Turnpike Authority

DATE NOTICED IN MONITOR : August 8, 1986

Pursuant to the Massachusetts Environmental Policy Act (G.L., c.30, s.62-62H) and Sections 10.04(1) and 10.04(9) of the regulations implementing MEPA (301 CMR 10.00), I hereby determine that the above project requires the preparation of an Environmental Impact Report.

The four ENFs presented under EOEA #6198 present four projects of the MTA which together raise significant questions on traffic, air quality, noise, groundwater, surface water and recreational impact. In addition, the Authority has informed me of a project change to provide additional truck parking at service area 8E in Natick. Because the impacts of all five actions are interrelated and in some cases cumulative they must be evaluated under MEPA as a single project. The goal of the document is to review the environmental effects of all alternatives and identify all feasible mitigation necessary under G.L., c.30, s.61.



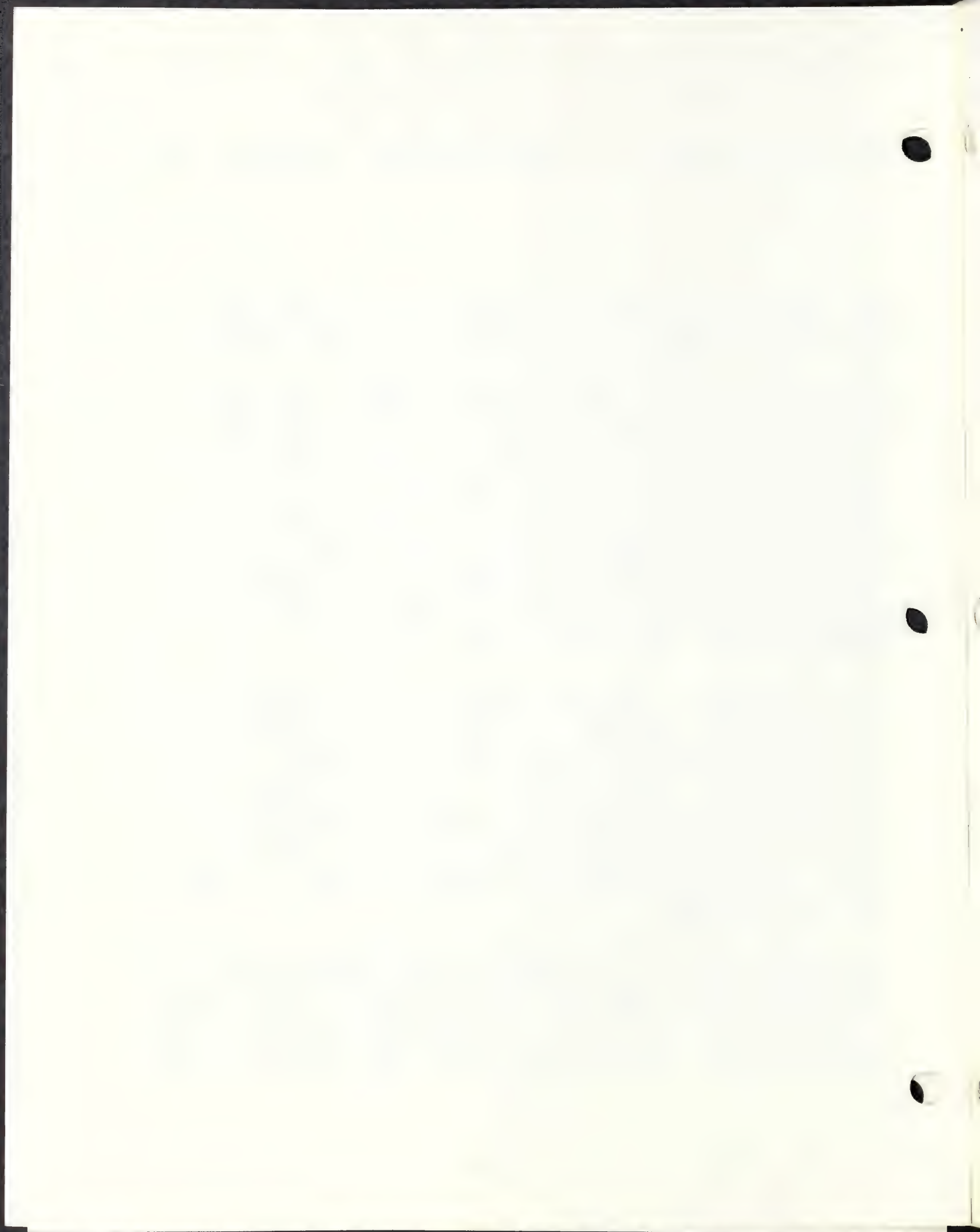
S C O P E

I. Purpose of and Need for Project - Based on a review of traffic and accident data for the Turnpike from Route 128 to I-495, describe the need for and goals of the proposed changes.

II. Traffic - An analysis of potential changes in traffic volume between I-495 and the Central Artery is needed. Due to the delicate balance of traffic between road options, the report must consider whether an improvement in flow on the Turnpike may divert some traffic from Routes 30, 9 and 135. Changes in traffic flow on the Turnpike Extension, Central Artery, and Route 128 due to the projects must be evaluated. In addition, some exit ramps and receiving streets or roads may be affected significantly. These should be identified and impacts on them evaluated. This analysis must include Speen Street and the ramp access changes proposed at Shoppers World. A thorough evaluation of potential traffic changes is needed to evaluate properly impacts in most other areas. Safety impacts to sensitive areas such as school walking areas must be evaluated. Finally, employee access, especially at the new toll plaza, must be considered.

III. Air Quality - The Commonwealth is not in compliance with the National Ambient Air Quality Standards for some contaminants and towns are not in compliance for others. Since compliance with the NAAQS is due soon, the status of this project under the State Implementation Plan needs careful analysis. Mesoscale analysis of hydrocarbons, ozone and oxides of nitrogen is needed. Some elements of this program may lead to benefits, while some cause extra burdens. The net effect of the project must be clearly presented. Microscale analysis of carbon monoxide impact will also be needed for sensitive receptors and where "hot spots" exist. DEQE/Air Quality Control must be consulted as to model use, input parameters, selection of sensitive receptors, and the need for monitoring.

IV. Noise - The current operations of the Turnpike are reported to create significant noise impacts on the residents of the surrounding communities. This noise level must be quantified for sensitive receptors along the main line, ramps and service area in all work areas. The analysis should identify average and peak noise levels for day, evening, and night conditions. Using these data as the base, noise modeling must be used to evaluate changes



expected at the sensitive receptors due to the project elements. Noise due to pavement types, bridge expansion joints, and truck lanes should also receive analysis. Noise impacts should be compared to relevant noise level guidelines and standards, including the Federal Highway Administration Design Noise Levels.

V. Ground and Surface Water Supplies - Data should be presented on the current sodium levels in private and public water supplies impacted by the Turnpike snow and ice control program in the work areas. Increases due to increased pavement width and lane miles must be evaluated. Potential water supply sites identified by the Towns must be identified in the report and potential impacts to these evaluated.

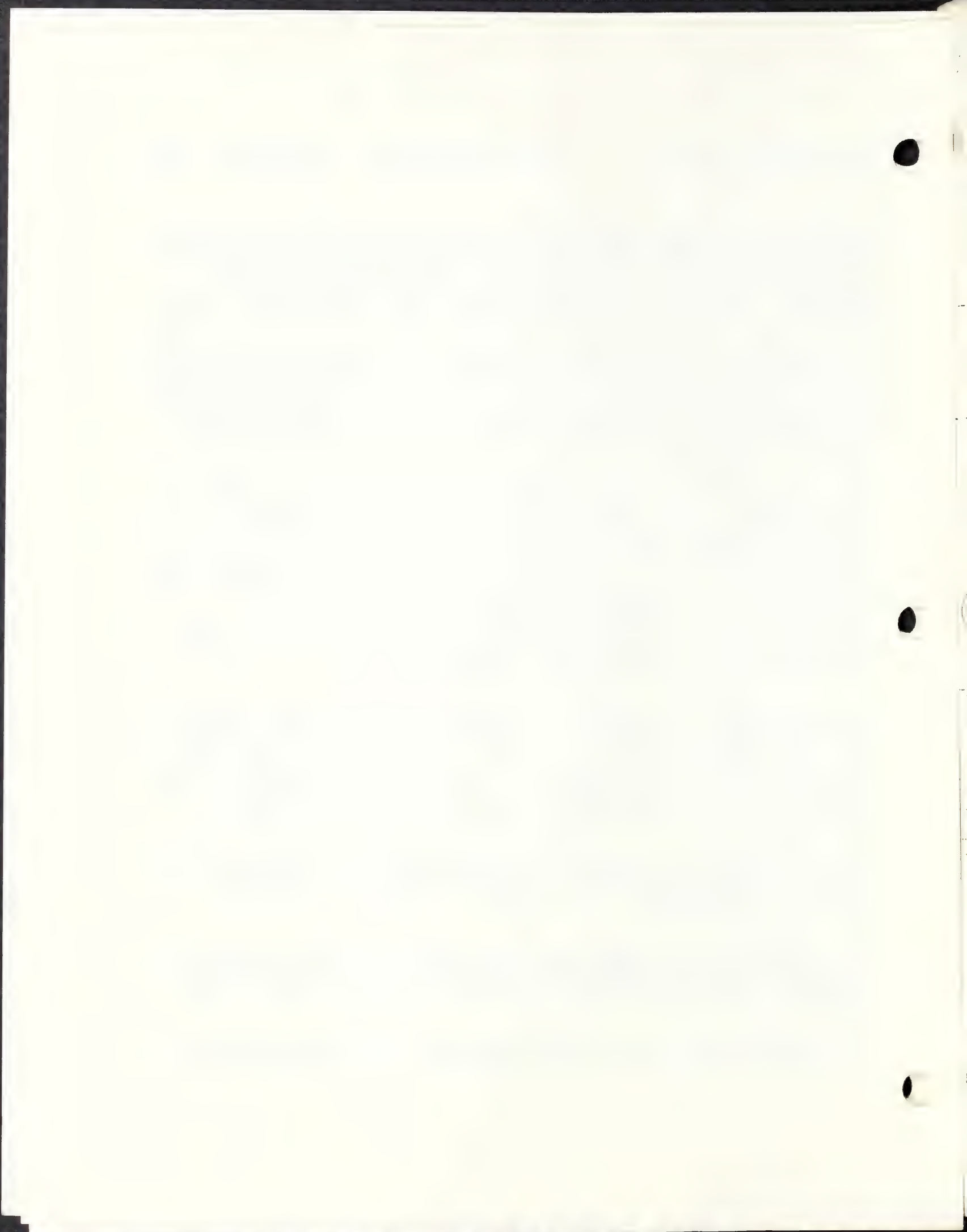
VI. Surface Water - The Turnpike discharges runoff to numerous water bodies in the work areas. These should be identified and the existing use of each should be discussed. The current Turnpike runoff to each should then be characterized in terms of quantity and quality. Based on volume and dilution factors, the existing impact should be compared with any available data on the water bodies for indicator and roadway runoff parameters. Changes in runoff quantity and quality and in impacts to receiving waters from these projects should then be evaluated. The potential for and effects of accidental spill of materials on the road surfaces also should be evaluated.

VII. Wetlands - The proposed projects would eliminate or modify several wetlands. The changes should be quantified by wetland and the significance of each wetland area should be evaluated under the existing seven interests of the Wetlands Protection Act and under the recently added wildlife interest. Impacts to each interest must be evaluated and the status of each proposed modification under the wetland regulations must be identified.

VIII. Light Impact - Proposals to add lighting to various segments of the Turnpike main line, toll plaza, and ramps should be illustrated clearly and their impact on adjacent residential communities evaluated.

IX. Recreation - A number of recreational facilities exist along the Turnpike in the work areas. The impact of the existing Turnpike should be documented and then any changes due to the proposals evaluated.

X. Mitigation - All feasible measures to mitigate impacts identified in each of the above sections should be identified and



October 1, 1986

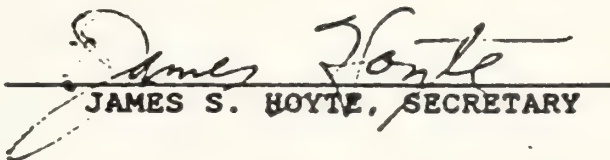
evaluated for effectiveness. This discussion may take place under the individual topics above, but the proposed mitigation measures must be summarized here. The goal is to meet the intent and requirements of G.L., c.30, s.61.

XI. - Alternatives - Alternative locations of the toll plaza and alternative fare collecting schemes should be presented and evaluated. Evaluation should be carried to the degree needed to determine feasibility. The Turnpike Authority should evaluate alternative alignments, designs, and details to limit adverse effects for other segments of the projects, as well.

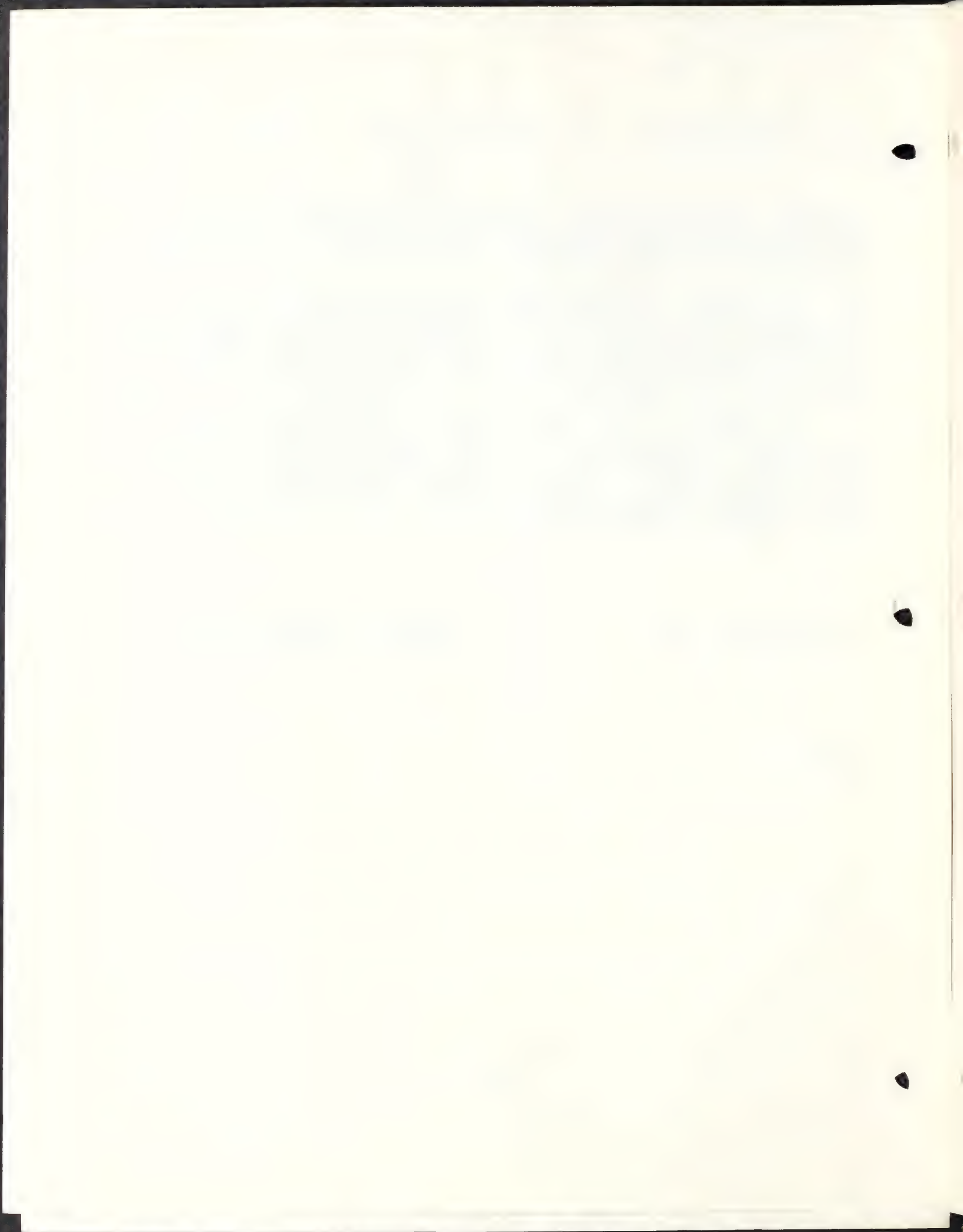
The EIR should follow the general format provided in the MEPA Regulations at 301 CMR 10.05(7) and must contain a copy of this Scope. The distribution list for the Draft EIR is included under separate cover. I also encourage the Authority to hold a public hearing at about the 20th day of the 30 day public and agency comment period for the Draft EIR.

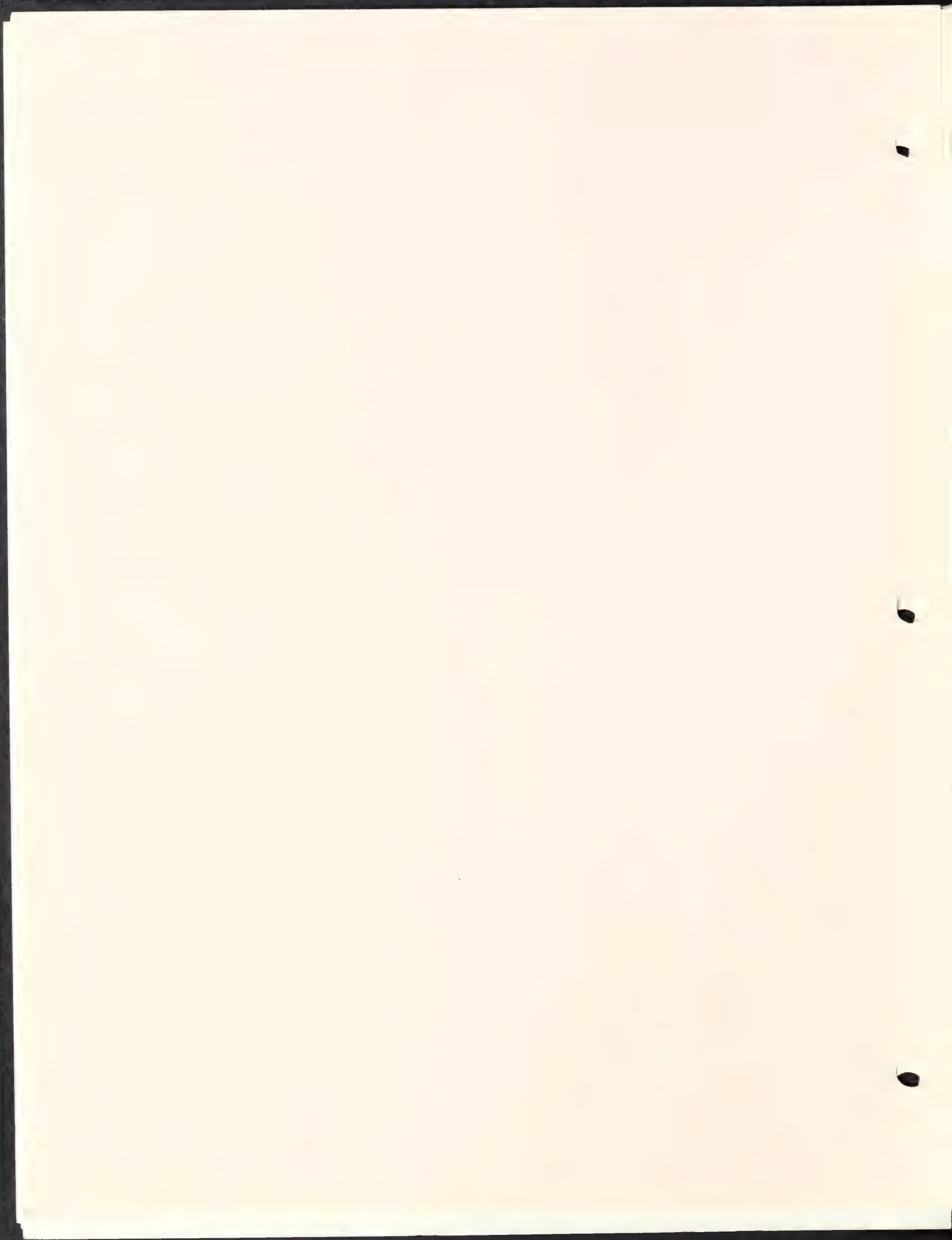
October 1, 1986

DATE


JAMES S. HOYTE, SECRETARY

JSH/DES/bk





APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification

1. Project Name MTA Barrier Toll Plaza 11A/12 and Related Interchange Improvements
2. Project Proponent Massachusetts Turnpike Authority
Address 668 South Avenue, Weston, MA 02193

B. Project Description: (City/Town(s) Framingham, Southborough, Westborough and Weston

1. Location within city/town or street address See Location Maps (fig. 1 - 4)
2. Est. Commencement Date: April 1988 Est. Completion Date: December 1988
Approx. Cost \$ 9,500,000 Current Status of Project Design: 5 % Complete

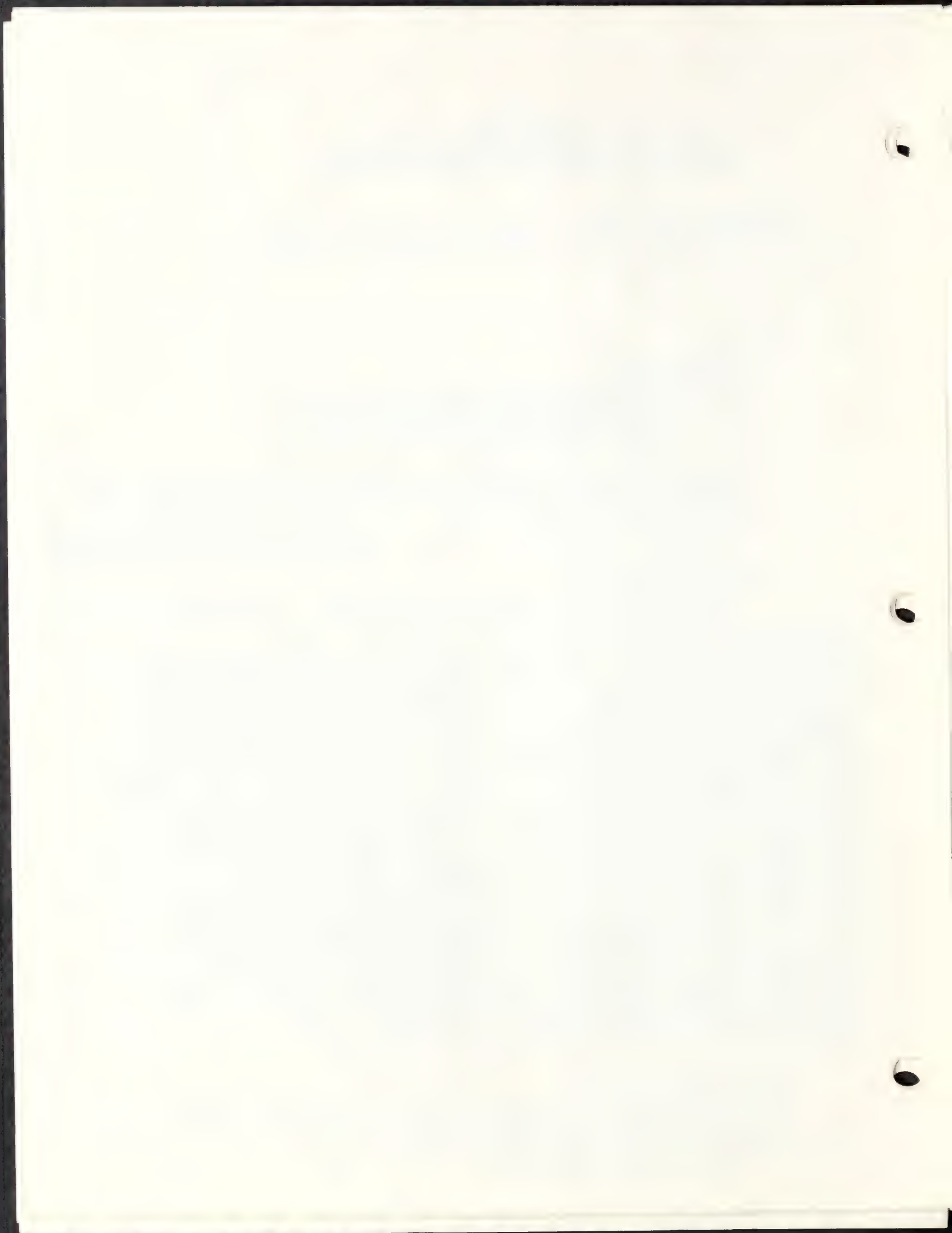
C. Narrative Summary of Project

Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

The Massachusetts Turnpike Authority proposes constructing a barrier toll facility between Interchange 11A and 12 on the Massachusetts Turnpike and modifying existing ramps and toll facilities at Interchange 12, 13, 14 and 15. The purpose of the project is to reduce traffic congestion and improve safety on the Turnpike while meeting the toll collection needs of the Turnpike Authority. Toll collection on the Turnpike between Route 128 and the N.Y. State line is presently carried out through a ticket toll system at Turnpike Interchanges, where motorists are required to stop, relinquish a ticket, and pay a fee that corresponds to the distance they have travelled on the Turnpike. Traffic congestion occurs frequently at the ticket toll facilities at Interchange 12, 13, 14 and 15, and projected increases in traffic indicate that the situation will only worsen. In addition, physical and economic constraints have eliminated the possibility of increasing toll collection capacity by expanding the existing interchange ticket toll collection facilities. With construction of the barrier toll facility, the Turnpike toll collection system from Rt. 128 to Rt. 495 will be changed from a ticket toll system to a fixed fee system, which is currently utilized on the Turnpike from Weston to Boston. A fixed fee system requires that motorists pay a fixed fee at each toll collection facility based upon the location of the facility. The fixed fee toll collection system is preferred over the ticket toll collection system because a significantly greater volume of traffic can be processed in a fixed fee toll collection system, given an equal number of toll lanes. By shifting a portion of the toll collection function from the interchanges to the barrier toll facility, and converting from a ticket toll system to a fixed fee system, traffic congestion at the interchanges will be significantly reduced, and overall Turnpike traffic flow will be improved. The proposed barrier toll facility will both fulfill the Turnpike toll-collection requirements and improve the efficiency of traffic flow on the Turnpike, which will enhance safety along this section of the Turnpike.

Copies of this may be obtained from:

Name: Mr. John N. Grim Firm/Agency: Massachusetts Turnpike Authority
Address: 668 South Avenue, Weston, MA 02193 Phone No. 237-3250



Use This Page to Complete Narrative, if necessary.

The project involves construction of a barrier toll plaza on the Massachusetts Turnpike and related modification of Massachusetts Turnpike Interchange 12, 13, 14 and 15. The proposed barrier toll facility, known as Barrier Toll Plaza 11A/12, will be located at Massachusetts Turnpike mile 107.6 on the Westborough-Southborough Town line. The toll plaza will be a 15-lane facility served by 14 toll booths. The Turnpike roadway will be widened to a width of approximately 275 ft. at the proposed barrier toll facility and, on either side of the proposed toll facility, will taper down to the existing 118 ft width over a distance of approximately 1800 ft. The proposed project will require construction of a 1600 sq ft utility building, a paved employee parking area, and a 700 ft 2-lane employee access road from Gilmore Road to the proposed toll facility. Although the majority of the proposed construction will take place on Turnpike property, the roadway widening and access road construction will require the acquisition of approximately 6 acres of adjacent property.

The modification of Turnpike Interchange 12, 13, 14 and 15 is an integral part of the proposed Barrier Toll Plaza 11A/12 project. Interchange 12 will be modified to allow free passage of traffic to and from the west, while traffic to and from the east will continue to be subject to tolls. The Interchange 12 alterations will include construction of a 15-car parking facility, widening of toll and approach lanes, and relocation of existing toll booths. At Interchange 13, existing toll collection facilities will be removed to allow free passage of traffic, and approach roadways will be widened. Although free passage of some traffic will be allowed at Interchange 12 and 13, all traffic on the Turnpike will be subject to tolls. At Interchange 14 and 15, toll collection equipment will be converted from ticket to coin collection systems. All construction proposed at Interchange 12, 13, 14 and 15 will take place within the existing Turnpike right-of-way.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report: YES _____ NO X

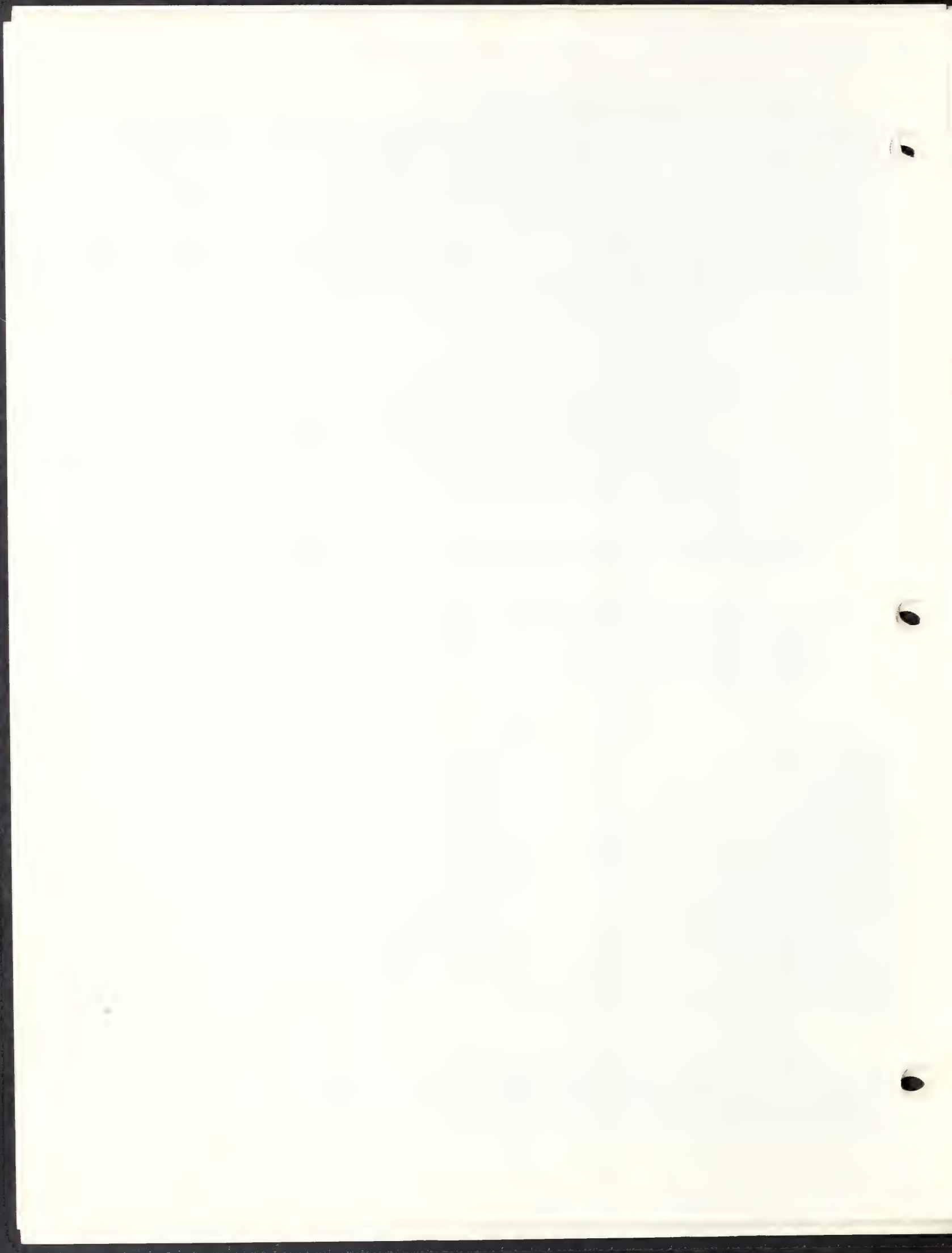
D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts	Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	_____	_____	_____	_____
Historical	_____	_____	_____	_____
Archaeological	_____	_____	_____	_____
Fisheries & Wildlife	_____	_____	_____	_____
Vegetation, Trees	<u>X</u>	_____	<u>X</u>	<u>X</u>
Other Biological Systems	_____	_____	<u>X</u>	_____
Inland Wetlands	<u>X</u>	<u>X</u>	<u>X</u>	_____
Coastal Wetlands or Beaches	_____	_____	<u>X</u>	_____
Flood Hazard Areas	_____	_____	_____	_____
Chemicals, Hazardous Substances, High Risk Operations	_____	_____	_____	_____
Geologically Unstable Areas	_____	_____	_____	_____
Agricultural Land	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____
		Mineral Resources	_____	_____
		Energy Use	_____	_____
		Water Supply & Use	_____	_____
		Water Pollution	<u>X</u>	_____
		Air Pollution	<u>X</u>	_____
		Noise	<u>X</u>	_____
		Traffic	<u>X</u>	_____
		Solid Waste	_____	_____
		Aesthetics	_____	_____
		Wind and Shadow	_____	_____
		Growth Impacts	_____	_____
		Community/Housing and the Built Environment	_____	_____

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

The proposed Barrier Toll facility is considered the only feasible alternative that will accommodate the existing and projected increases in traffic volume on this section of Massachusetts Turnpike.



E. Has this project been filed with EOEA before? Yes _____ No X
 If Yes, EOEA No. _____ EOEA Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
 If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name

Type of Permit

None known; However, the following may be required:

U.S. Army Corps of Engineers

Section 10/404

Massachusetts D.E.Q.E.

Water Quality Certificate

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
 Yes X No _____

DEQE File No., if applicable: _____

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name

Funding Amount

None

II. PROJECT DESCRIPTION

A. Include an original 8½ x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: 18.3 acres

Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed	<u>4.8</u> acres	4. Floodplain	<u>0.0</u> acres
2. Open Space/Woodlands/Recreation	<u>12.8</u> acres	5. Coastal Area	<u>0.0</u> acres
3. Wetlands	<u>0.7</u> acres	6. Productive Resources	
		Agriculture	<u>0.0</u> acres
		Forestry	<u>0.0</u> acres
		Mineral Products	<u>0.0</u> acres

C. Provide the following dimensions, if applicable:

Length in miles 0.7

Number of Housing Units -

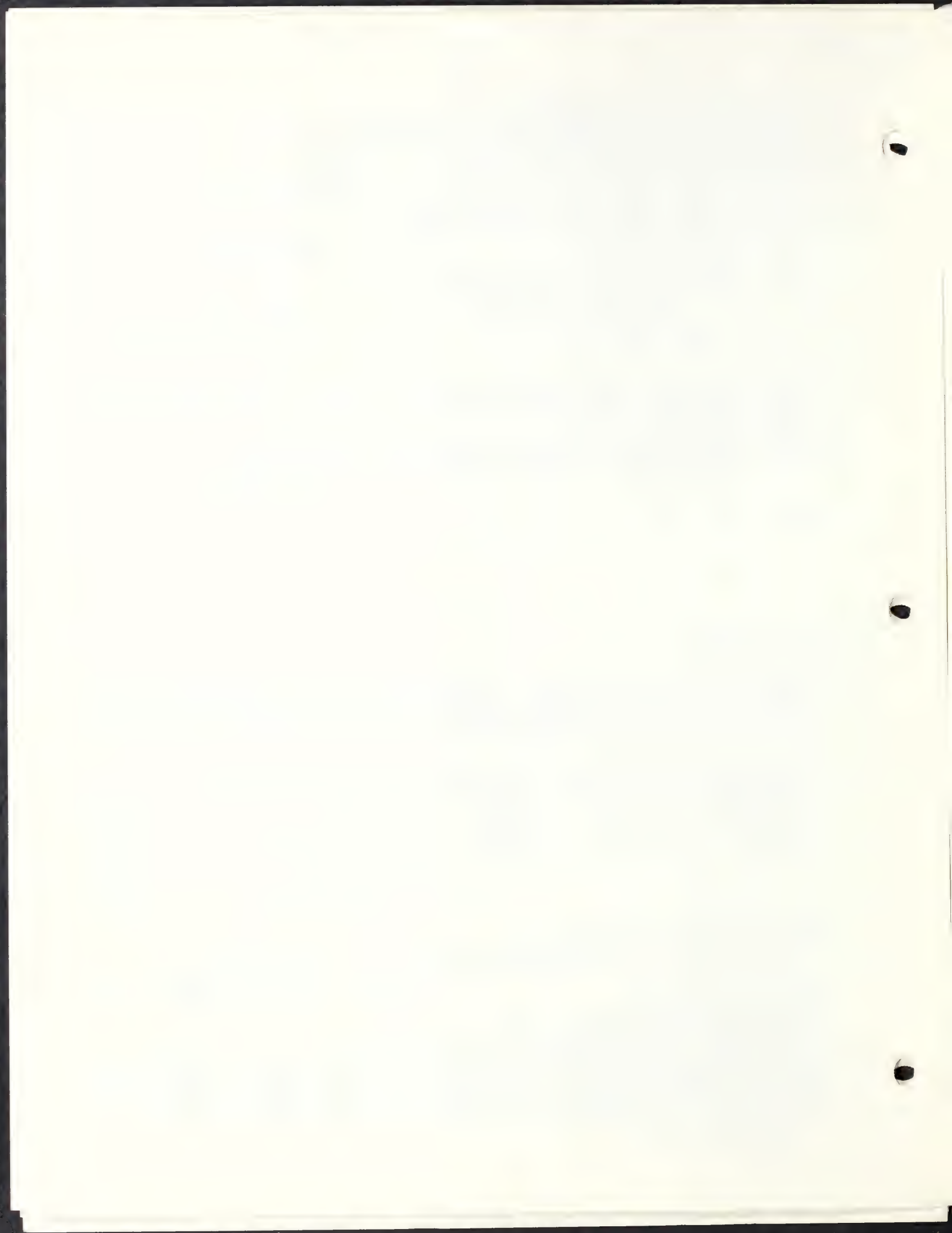
Number of Stories -

	Existing	Immediate Increase Due to Project
Number of Parking Spaces	<u>-</u>	<u>40</u>

Vehicle Trips to Project Site (average daily traffic)	<u>-</u>	<u>-</u>
---	----------	----------

Estimated Vehicle Trips past project site	<u>53,000</u> vpd	<u>0</u> vpd
---	-------------------	--------------

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection.



III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

The area where construction is proposed is not considered an open space or recreation area. The proposed project will not affect the condition, use or access to any open space or recreation area.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes _____ No X

Explanation and Source:

Source: Massachusetts Historical Commission

There are no properties of historic significance in the vicinity of the project that will be affected by the proposed activities.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

Source: Massachusetts Historical Commission

No archaeological sites are mapped by the Massachusetts Historical Commission in the vicinity of the project.

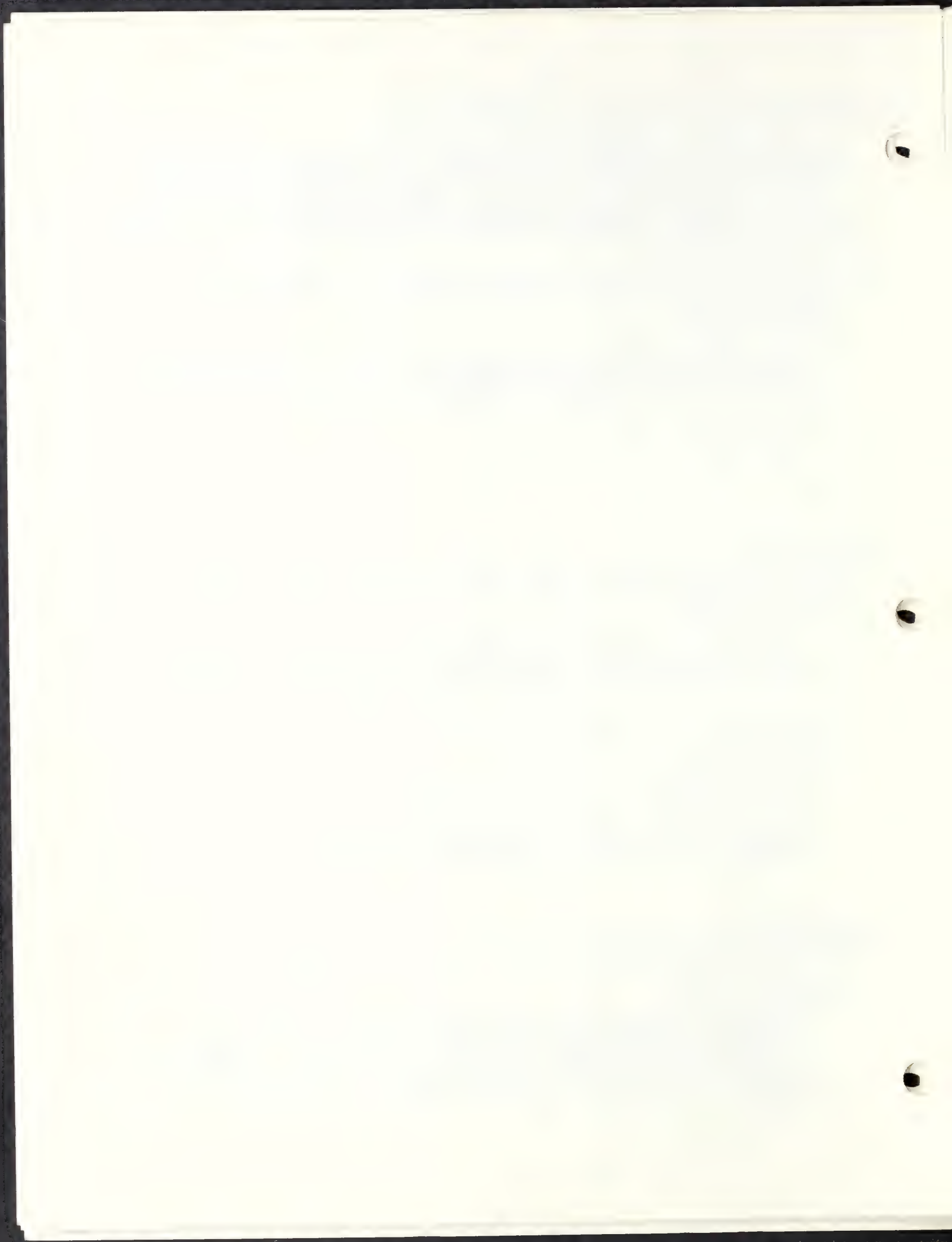
C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The proposed project is anticipated to have no significant impacts on wildlife or fisheries. Some habitat loss will occur at the site of the proposed barrier toll plaza, causing wildlife displacement. Correspondence with the Massachusetts Natural Heritage Program (See Appendix A) indicates that there are no known rare or endangered species in the vicinity of the project.



2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: 750)

Explanation and Source:

Field investigations indicate that the majority of the area that will be disturbed by the project consists of the mowed Turnpike right-of-way at both Interchange 12 and the proposed barrier toll site. Correspondence with the Massachusetts Natural Heritage Program (See Appendix A) indicates that there are no known rare or endangered plant species or communities in the vicinity of the project.

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes X No _____

Explanation and Source:

Field investigations indicate that improvements at Interchange 14 and 15 will not change the toll plaza configuration and will not impact any wetlands. Wetlands at Interchange 12 and 13 are within 50 ft of the proposed construction, but no impacts are anticipated. Forested wetlands at the barrier toll plaza site will be impacted. Project design and sediment and erosion control procedures will limit impacts to the greatest extent possible. All activities will conform to State and Federal wetland regulations. See Appendix B for a detailed discussion of existing wetland resources and anticipated impacts. The proposed project will have no significant impact on flood hazard areas.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

The project will not affect shoreline erosion or accretion.

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The areas where construction is proposed are not considered geologically unstable.

D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

The project will not affect the transport of any hazardous substances that may currently be occurring on the Turnpike. The project will not involve the storage, release, use or disposal of potentially hazardous substances.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The area where construction is proposed is not considered viable for forestry or agricultural production.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No
- X

Explanation and Source:

There are no known mineral or energy resources within the project area.

3. Might the operation of the project result in any increased consumption of energy? Yes _____ No
- X

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

The completed project will not result in any increased consumption of energy and will reduce consumption of energy by increasing the efficiency of traffic flow on the Turnpike. As with any construction activity, there will be a temporary increase in energy consumption during the construction process.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No
- X

Explanation and Source:

Existing man-made drainage systems will be altered to accommodate increased pavement runoff flows. The proposed project will not result in any significant changes to natural drainage systems.

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes <u>X</u>	No _____
(c) Ground Water	Yes <u>X</u>	No _____

Explain types and quantities of pollutants.

See Appendix C.

3. Will the project generate sanitary sewage? Yes _____ No X *

If Yes, Quantity: _____ gallons per day

Disposal by: (a) Onsite septic systems Yes _____ No _____

(b) Public sewerage systems Yes _____ No _____

* (c) Other means (describe) _____

An onsite septic system will be constructed to dispose of approximately 1000 gpd of sanitary sewage generated at the barrier toll facility. However, due to a reduction in the quantity of sanitary sewage generated at Interchange 12 and 13, there will be no net increase in the quantity of sewage generated by the project as a whole.

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes _____ No X

Explanation and Source:

The project will result in increased pavement over an aquifer of low productivity, which is not considered an important present or future water supply. The Sudbury River Aquifer, located near the project, is a more productive aquifer. The proposed project, however, will not result in any increase in impervious area over this aquifer. See Appendix C for a detailed discussion of water quality impacts.

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes _____ No X

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes _____ No X

Explanation and Source:

The site of the barrier toll plaza is not located in the watershed of any drinking water supply, nor is it located within 1/2 mile of any wells used as water supply. The project involves minor modifications to the existing toll facilities at Interchange 12, which lies in the watershed of Framingham Reservoir No. 3, a reserve MDC water supply. The proposed activities at this interchange will have no significant impact on water quality. See Appendix C for a detailed discussion of water quality impacts.

6. Might the operation of the project result in any increased consumption of water? Yes _____ No X

Approximate consumption _____ gallons per day. Likely water source(s) _____

Explanation and Source:

The proposed barrier toll facility will require a water supply connection to the Southborough water distribution system and will consume approximately 1000 gpd. However, due to a reduction in water consumption at Interchange 12 and 13, there will be no net increase in water consumption for the project as a whole.

7. Does the project involve any dredging? Yes _____ No X

If Yes, indicate:

Quantity of material to be dredged _____

Quality of material to be dredged _____

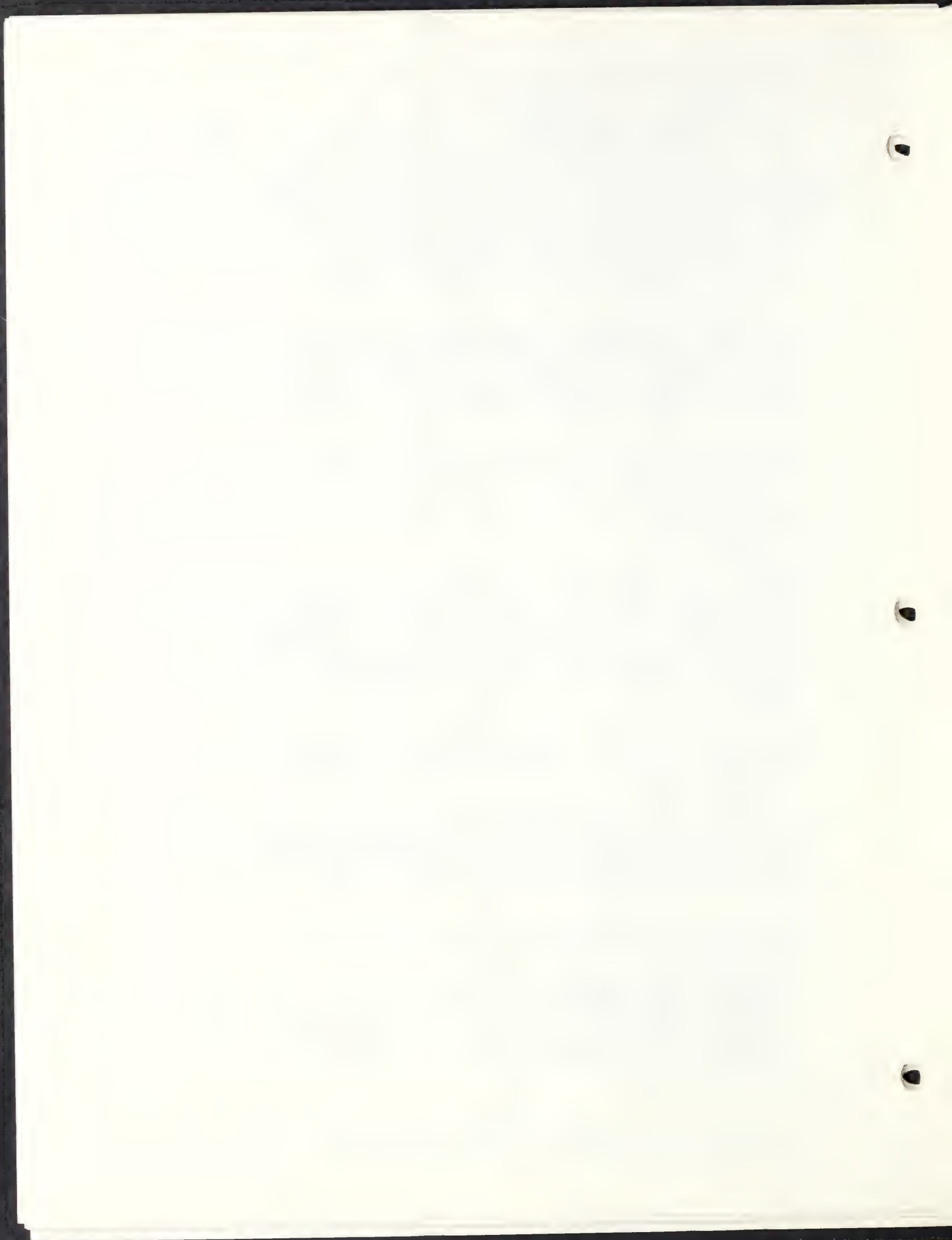
Proposed method of dredging _____

Proposed disposal sites _____

Proposed season of year for dredging _____

Explanation and Source:

The proposed improvement does not involve any dredging.



G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?

Yes ☒ No ☐

Describe type and source of any pollution emission from the project site. (Described below)

Construction of the proposed project will have two major short-term effects: an increase in construction equipment emissions and an increase in dust maintained in suspension by construction activity. Construction equipment will emit carbon monoxide, hydrocarbons, oxides of nitrogen, and particulates. Long-term ambient air concentrations will not change significantly as a result of the operation of construction equipment or traffic attributed to the project. The improvement of traffic flow at Interchanges 12, 13, 14 and 15 resulting from the proposed modifications will serve to reduce emissions attributed to congested traffic at the interchanges.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes
- ☒
- No
- ☐

Explanation and Source:

Improvements to existing toll facilities at Interchange 12 will slightly impact one residence, although it is situated several hundred feet from the plaza, which is located in a deep cut. Work on the toll plaza at Interchange 13 will not affect any sensitive receptors. Construction of the new toll plaza between Interchange 11A and 12 will affect approximately eighteen residences. All residences would be affected by short-term construction activities, but not by long-term decrease in air quality levels. The increased dust (particulate) levels will be the largest component of the short-term impacts and will be the greatest annoyance to nearby residents. Dust emissions will vary depending upon the level of activity, type of operations, and weather conditions. The most common dust control techniques include watering, chemical stabilization and vehicle speed reduction.

3. Will access to the project area be primarily by automobile? Yes
- ☒
- No
- ☐

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

The project involves construction of an access road from Gilmore Road. The road will provide access for Turnpike employees and service vehicles. Access will also be provided from the Turnpike itself.

H. Noise

1. Might the project result in the generation of noise? Yes
- ☒
- No
- ☐

Explanation and Source:

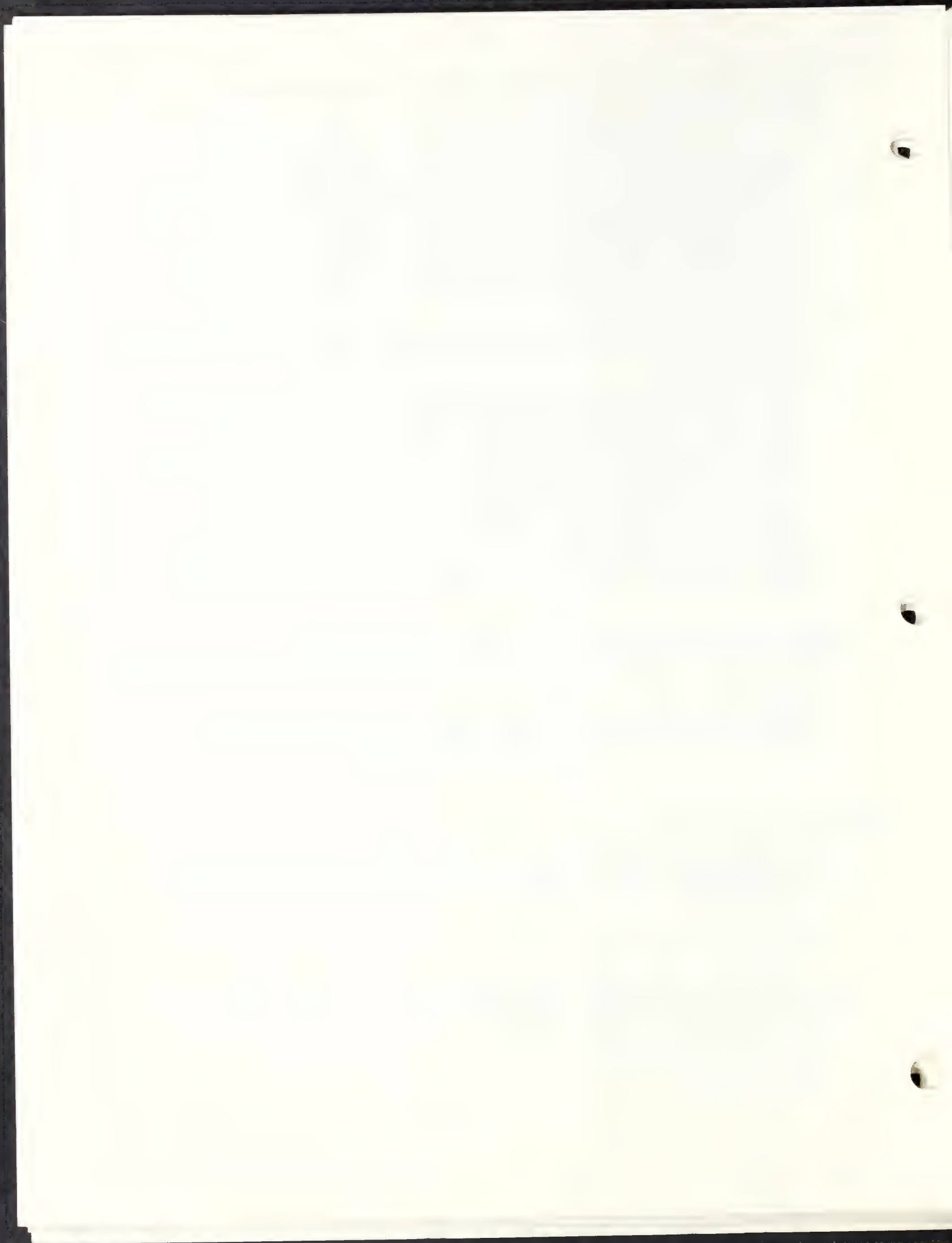
(Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

See Appendix D.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes
- ☒
- No
- ☐

Explanation and Source:

See Appendix D.



I. Solid Waste

1. Might the project generate solid waste? Yes ☒ No ☐

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

Excavation at Interchange 12 and the barrier toll site will generate a significant volume of rock for disposal. The removal of the toll plaza and pavement at Interchange 13 will generate solid waste. The 5000 tons of solid waste generated by the removal of Interchange 13 toll facilities will consist primarily of debris from demolished structures and excavated bituminous concrete pavement. The solid waste generated by the proposed construction will be disposed of in a suitable landfill as part of the project.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs? Yes ☒ No ☐

Explanation and Source:

The construction of the barrier toll facility will alter the visual character of the area where construction is proposed. The construction of the toll facility on what is now an undeveloped wooded parcel will result in a general decline in the aesthetic value of the area. The adverse aesthetic impact is not considered a significant impact due to the presence of a vegetative buffer and relative lack of sensitive receptors in the area.

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use? Yes ☐ No ☒

Explanation and Source:

The proposed facilities will be compatible with those in the vicinity of the work.

3. Might the project impair visual access to waterfront or other scenic areas? Yes ☐ No ☒

Explanation and Source:

Not applicable

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes ☐ No ☒

Explanation and Source:

Not applicable

IV. CONSISTENCY WITH PRESENT PLANNING

- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The construction of the barrier toll facility requires that the Massachusetts Turnpike Authority acquire approximately 6.0 acres of adjacent property in Southborough. The property that will be acquired is presently zoned for residential land use. The use of the acquired property for construction of an access road from Gilmore Road is not considered to be inconsistent with local land-use.

The proposed Barrier Toll 11A/12 project is being completed in accordance with the Turnpike Authority's current plan to upgrade and modify the toll collection system and widen and improve interchange ramps and sections of the Turnpike mainline. The project will significantly enhance traffic operations and the level of safety on the Massachusetts Turnpike.

V. FINDINGS AND CERTIFICATION

- A. The notice of intent to file this form has been/will be published in the following newspaper(s):

(Name) 1. Wayland-Weston Town Crier (Date) July 9 - July 17 (est.)
2. Middlesex News Week of July 7 (est.)
3. Westborough News July 9 - July 17 (est.)

- B. This form has been circulated to all agencies and persons as required by Appendix B.

June 23, 1986

Date

John N. Grim
 Signature of Responsible Officer
 or Project Proponent

John N. Grim
 Name (print or type)

Address Massachusetts Turnpike Authority
668 South Avenue, Weston, MA 02193
 Telephone Number 237-3250

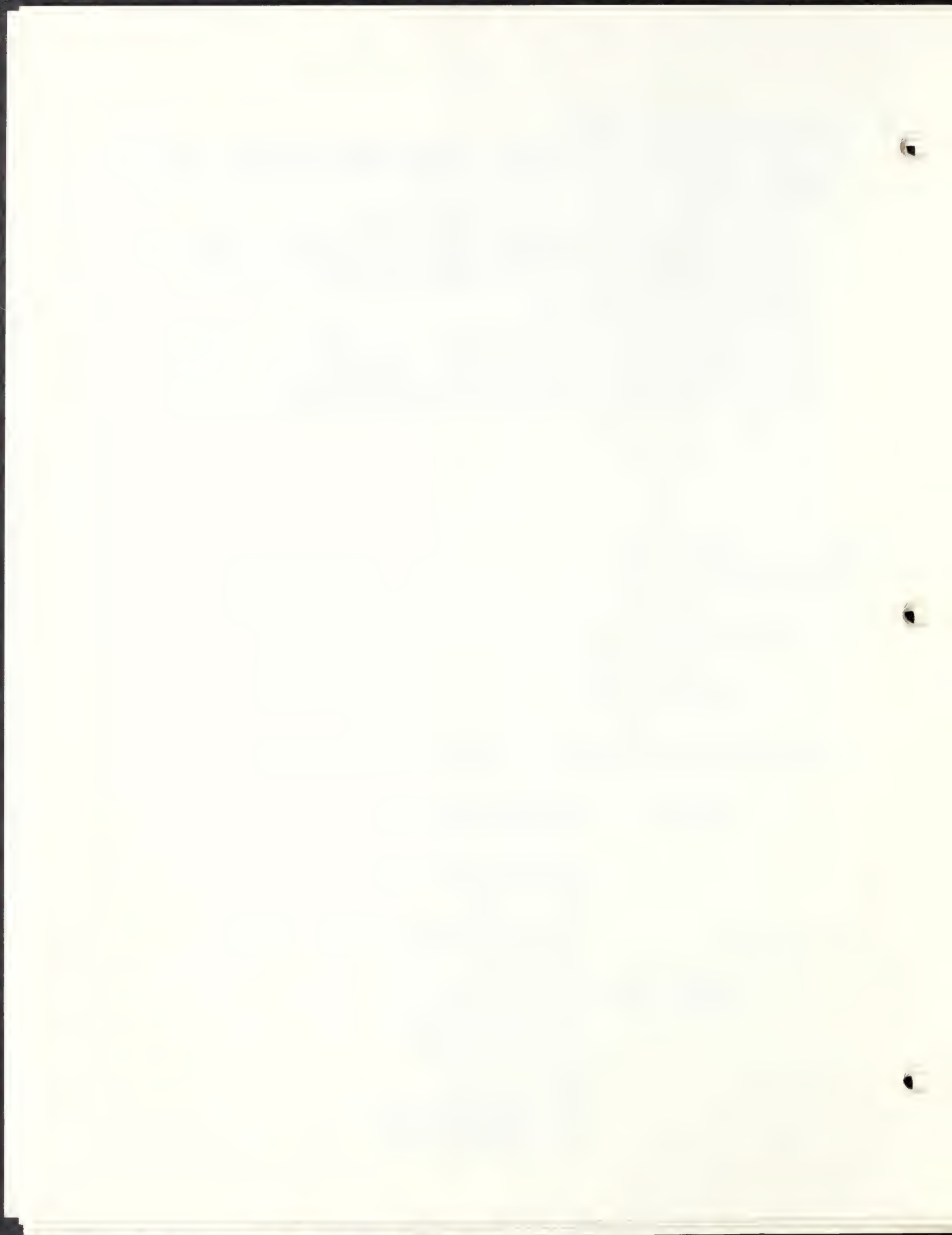
June 23, 1986

Date

Gary W. Walsh
 Signature of person preparing
 ENF (if different from above)

Gary W. Walsh
 Name (print or type)

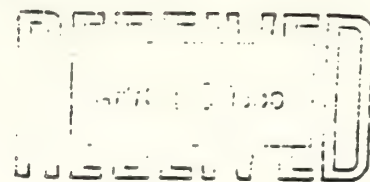
Address HNTB 4200 Prudential Center
Boston, MA 02199
 Telephone Number 267-6710



APPENDIX A



Massachusetts
Natural Heritage
Program



April 16, 1986

Ms. Amy Hogeland
Jason Cortell & Assoc.
144 Second Ave.
Waltham, MA 02154

RE: Massachusetts Turnpike Improvements

Dear Ms. Hogeland,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant communities in the vicinity of the proposed improvements to the Massachusetts Turnpike, as referenced in your letter of April 11, 1986.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities which would be affected by this project.

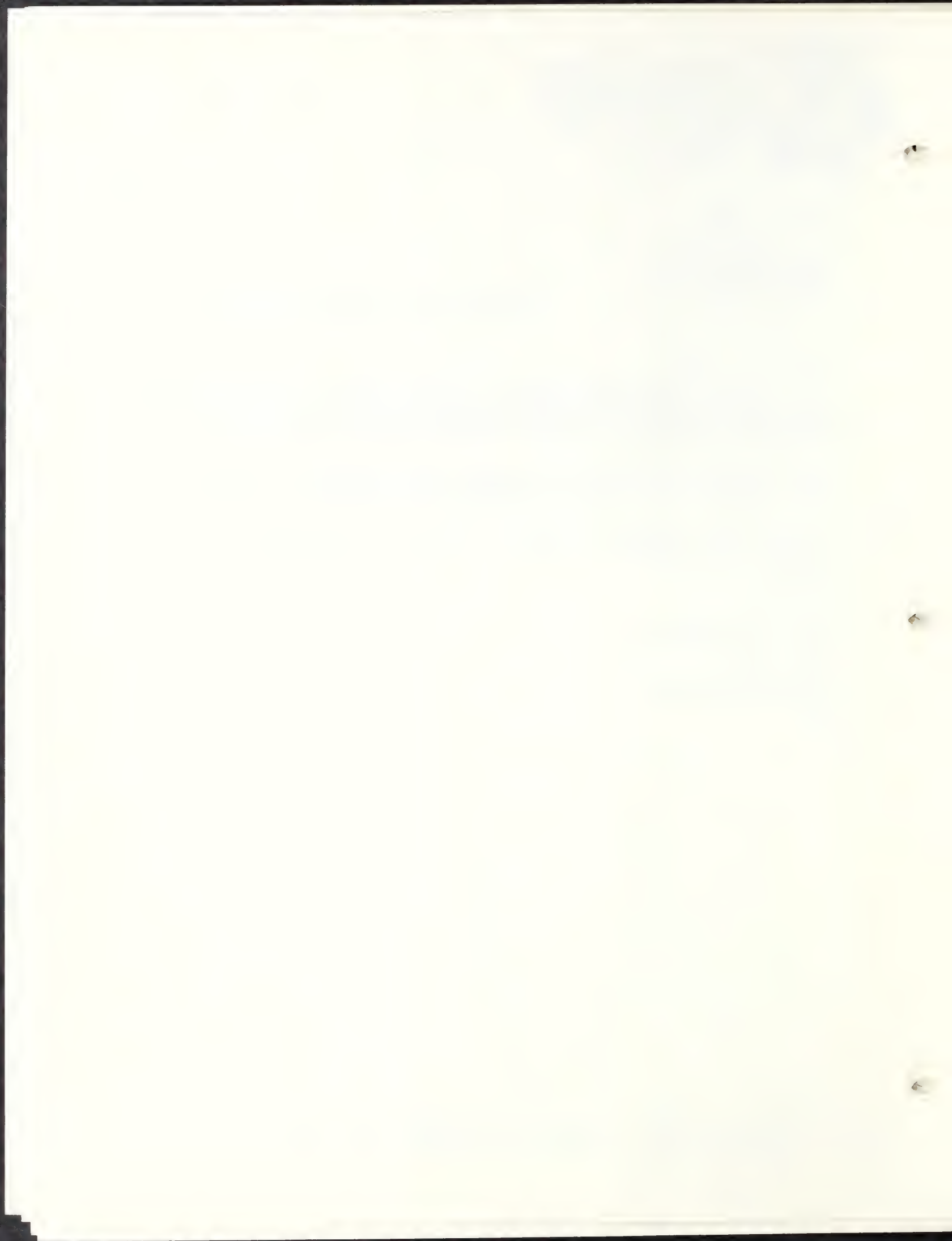
As you know, our inventory is ongoing, so more data on this area may become available in the future.

Sincerely,

Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm



APPENDIX B

APPENDIX B - WETLANDS

MTA BARRIER TOLL PLAZA 11A/12

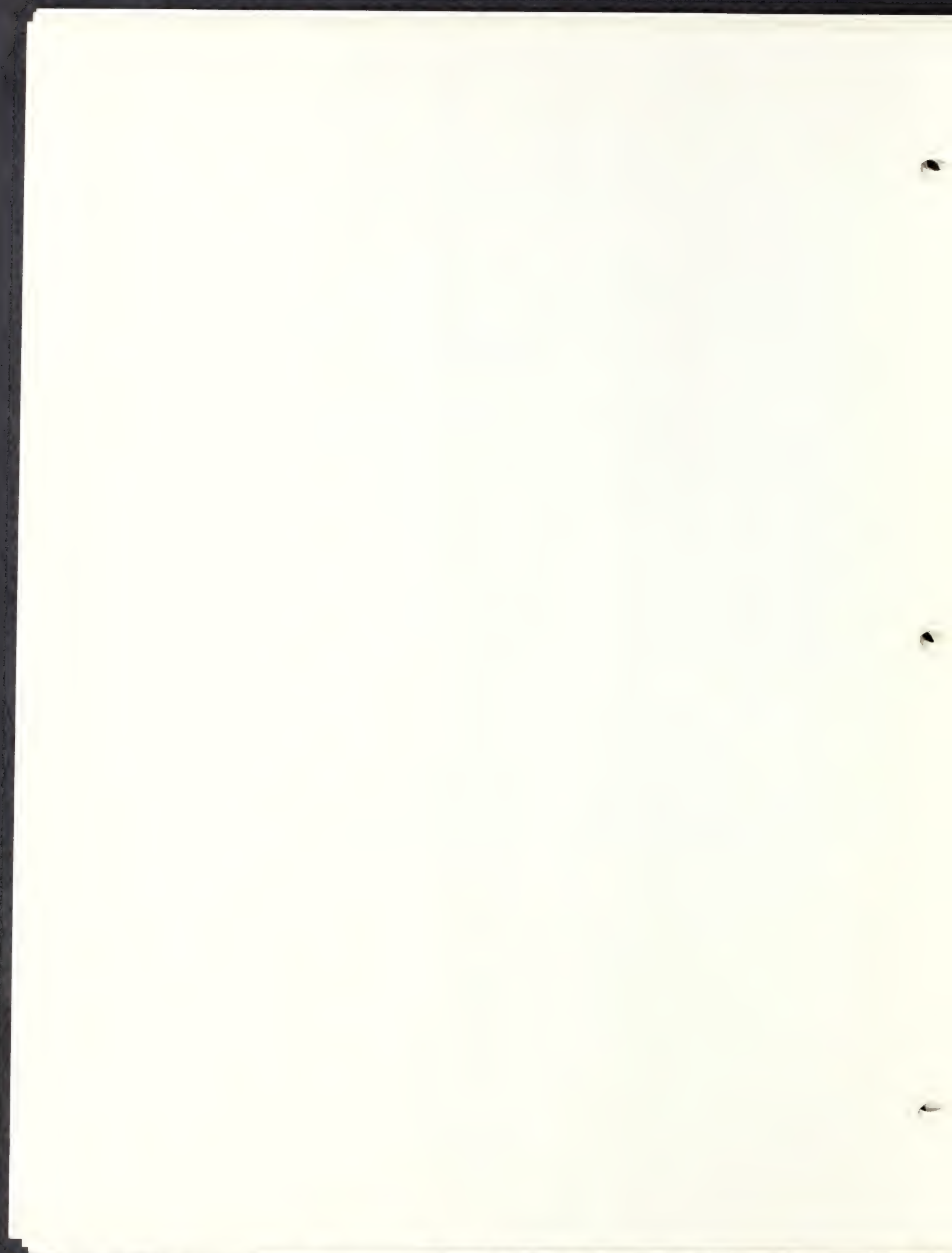
Prior to evaluating wetland impacts, field investigations were conducted to identify wetland resources within the project limits. Wetland boundaries were approximately located in the field by measuring distances from established points of reference such as existing pavement, bridges, culverts, etc. These wetlands boundaries were then transferred onto plans (Figure 5, 6 and 7).

Results of the field investigations indicate that wetland impacts will occur for work at the proposed barrier toll facility. Work at Interchange 12 and 13 will occur within 100 ft of wetlands but will have no anticipated impacts. The wetland at Interchange 12 is located above the rock cut situated southwest of the existing toll plaza. This forested wetland is approximately 50-75 ft from the edge of the rock face. A small drainage swale leads from the wetland to the rock face, allowing for some water discharge. It is anticipated that the rock face will be pushed back 25-30 ft to allow for the roadway widening. This work, while shortening the drainage swale, will not impact the vegetated wetland itself.

Wetlands in the vicinity of the proposed barrier toll facility are predominantly forested. Typical species include red maple (Acer rubrum), highbush blueberry (Vaccinium corymbosum), spice bush (Lindera benzoin), and skunk cabbage (Symplocarpus foetidus). Emergent wetlands located near Flanders Road, west of the project area, are dominated by cattail (Typha latifolia). Figure 8 presents a photograph of Wetland 4.

The proposed activities at the Barrier Toll will impact Wetland 1, 2, 3, 4, and 5. Wetland 6 will be more than 100 ft from construction activities, and no impacts are anticipated. It is estimated, based on preliminary wetland surveys, that approximately 0.6-0.8 acres of wetland vegetation will be impacted by the proposed widening. This consists of the disturbance of 12 to 55 ft of vegetation along the perimeter of the wetlands adjacent to the existing toe-to-slope. Final design plans may significantly reduce this disturbance by increasing embankment sideslopes, therefore reducing the area of disruption. Standard sediment and erosion control procedures will limit any secondary impacts, such as siltation and erosion.

APPENDIX C



APPENDIX C - WATER QUALITY

BARRIER TOLL 11A/12

The modifications to Interchange 12, 13, 14 and 15, which are a part of the Barrier Toll 11A/12 project, will have no significant impact on water or groundwater quality. The installation and operation of the proposed Barrier Toll between Interchanges 11A and 12 will result in some impact to the water quality of the Sudbury River, as well as that of the underlying aquifer. Water quality impacts will result from sedimentation and erosion during construction, road salt use during winter storms, and petroleum products, nutrients and metals from highway runoff. Construction-related water quality impacts will be temporary, and can be sufficiently mitigated by implementing an effective soil erosion and sediment control plan. Other water quality constituents, such as petroleum products, nutrients, metals and BOD, are present in highway runoff in proportion to the traffic volume. Because the proposed turnpike improvements will not result in increased traffic volumes beyond normal growth, there will be no water quality impacts regarding the above constituents as a consequence of this project. Water quality data from samples were collected at the modelling location on the Sudbury River on April 10, 1986. Results from the water quality analysis are attached.

The only water quality impacts that can be directly attributed to this project are higher levels of sodium and chloride in surface and groundwater, as a consequence of increased salt use on the turnpike. The significance of the increased contaminant levels, particularly sodium and chloride, can be predicted from both surface and groundwater, using standard methods.

The U.S.G.S. performed detailed studies in several Massachusetts streams of the response in sodium chloride levels to increased salt usage within the watershed (U.S.G.S. ; OFR 81-209, 1981). Equations were developed from these studies that predict the increase of the average and maximum expected sodium and chloride concentrations resulting from a particular annual salt application. The existing conditions of the Sudbury River are based on recent water quality data, which is attached. Other factors considered in this method include the drainage area; average annual discharge; lake, pond and wetland storage area; slope of the watershed; and annual salt usage within the watershed, in tons.

The watershed area of the Sudbury River which encompassed the entire project area was used to model the water quality impacts. The calculations assumed that the interchange improvements would result in 4.3 lane-miles of additional road surface to be de-iced. Based on an average annual salt use rate of 20 tons per lane-mile (Personal Communication, MTA), the existing and future annual salt loads were determined. The following table shows concentrations of sodium and chloride predicted for the Sudbury River.

Table I

EXISTING AND FUTURE CONCENTRATIONS
OR SODIUM AND CHLORIDE IN THE SUDBURY RIVER
RESULTING FROM PROPOSED BARRIER TOLL PLAZA

	Existing Conditions	Future Conditions
Mean chloride concentration (mg/l)	42	44
Maximum chloride concentration (mg/l)	44	48
Mean sodium concentration (mg/l)	32	33
Maximum sodium concentration (mg/l)	69	71

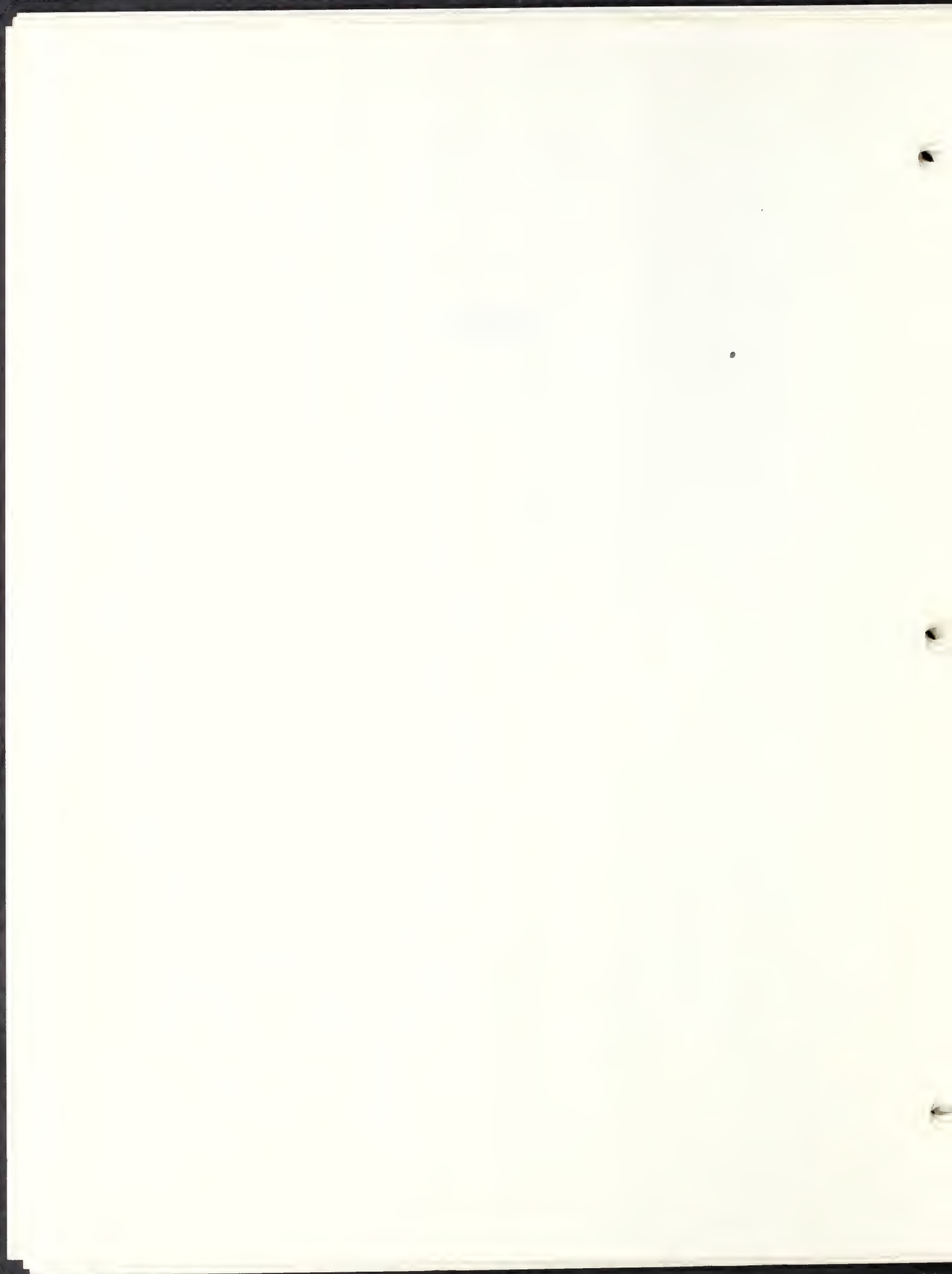
There will also inevitably be some introduction of sodium and chloride into the groundwater. Although the project area is underlain by glacial till with a low groundwater recharge rate, the Sudbury River is underlain by a more productive aquifer with a greater recharge rate. The actual rise in sodium and chloride concentration in the groundwater will be greater than that predicted for the surface water, as about 80% of the road salt in a watershed infiltrates the groundwater. It is highly unlikely that the proposed project will result in any serious water or groundwater quality problems.

WATER QUALITY DATA FOR SUDBURY RIVER

April 10, 1986

Parameter	Result
Temperature (°C)	10
pH (units)	7.4
Conductivity (umhos/cm)	200
Dissolved Oxygen (mg/l)	12.6
Total Phosphate (mg/l)	0.033
Total Kjeldahl Nitrogen (mg/l)	0.24
Ammonia (mg/l)	<0.1
Chloride (mg/l)	42
Sodium (mg/l)	32
Lead (mg/l)	<0.1
Zinc (mg/l)	<0.02
Iron (mg/l)	0.17
Cadmium (mg/l)	<0.02

APPENDIX D



APPENDIX D - NOISE

MTA BARRIER TOLL 11A/12

The proposed barrier toll work at Interchange 12, 13 and between Interchange 11A and 12 will result in an increase in short-term construction (peak) noise levels and insignificant increases in traffic (steady-state) noise levels.

The barrier toll work at Interchange 12 will affect one residence, although it is several hundred feet away. The toll plaza is also located in a deep cut, which will help shield construction noise from the residence. However, since the toll barrier is located in a deep, narrow rock cut, blasting will be necessary to provide the necessary clearance. Blasting noise will be audible at the sensitive receptor, although it will be very short-term.

The construction of the barrier toll facility between Interchange 11A and 12 will affect approximately eighteen residences.

Three residences located approximately one-half mile east of the proposed barrier toll plaza along the Parkerville Road underpass will experience minimal noise impact, as the roadway will be widened slightly to accommodate the approaches to the toll barrier. Fifteen additional residences located north of the turnpike along Gilmore Road will experience some construction noise impacts, as the turnpike will be widened for the barrier toll facility approaches. In addition, an access road will be constructed for turnpike personnel between Gilmore Road and the proposed barrier toll facility for Turnpike Authority employee use only.

Construction noise will be caused primarily by the engine exhaust of construction equipment and blasting. The proposed construction will include the following consecutive phases:

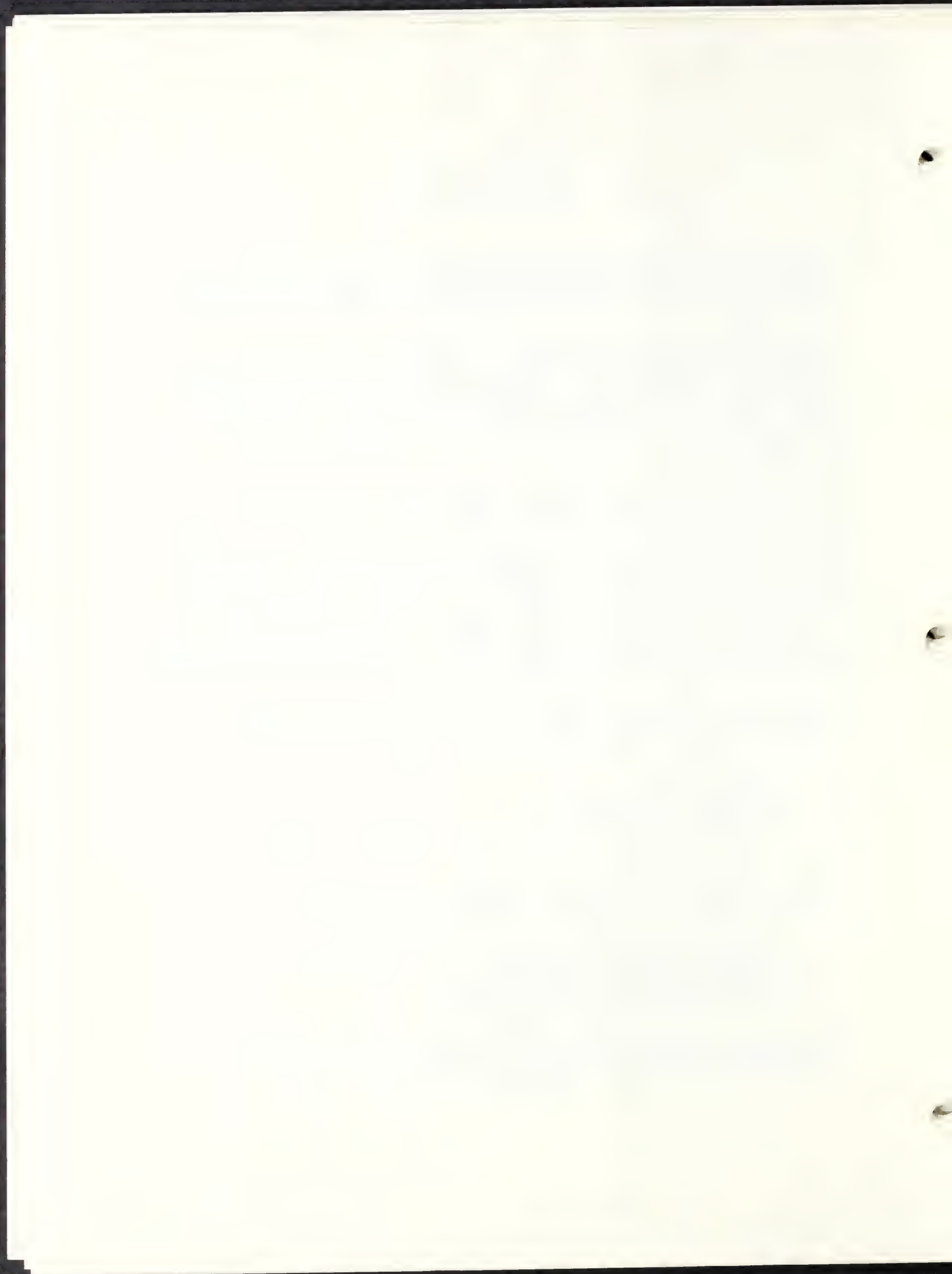
- o Ground clearing
- o Earthwork; including blasting
- o Erection of structures
- o Finishing; including filling, paving, grading and cleanup operations

No pile driving is expected for this project.

All noise level increases due to construction will be short-term and may be controlled by the use of the one or more of the following:

- o Installation of noise reduction devices on equipment
- o Enforcing operation time controls
- o Use of alternative, quieter equipment
- o Use of shielding or screening devices on or around equipment

The increase in traffic noise, between the build and no-build condition, at the eighteen residences is determined by vehicle speed, traffic volume, and the distance between the source (roadway) and receiver (residence).



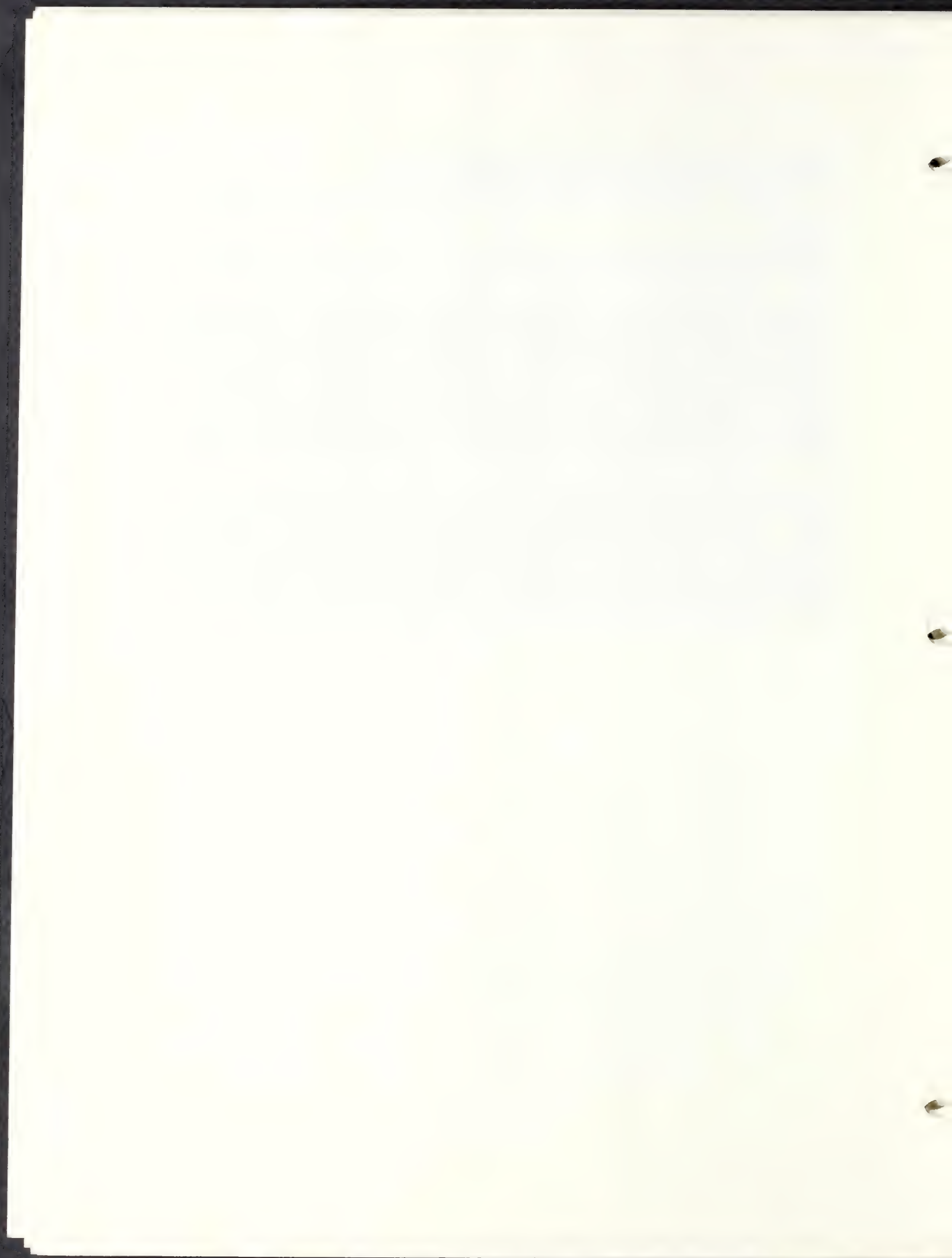
The proposed improvements at Interchange 12 will result in no increase in the noise levels at the closest residence.

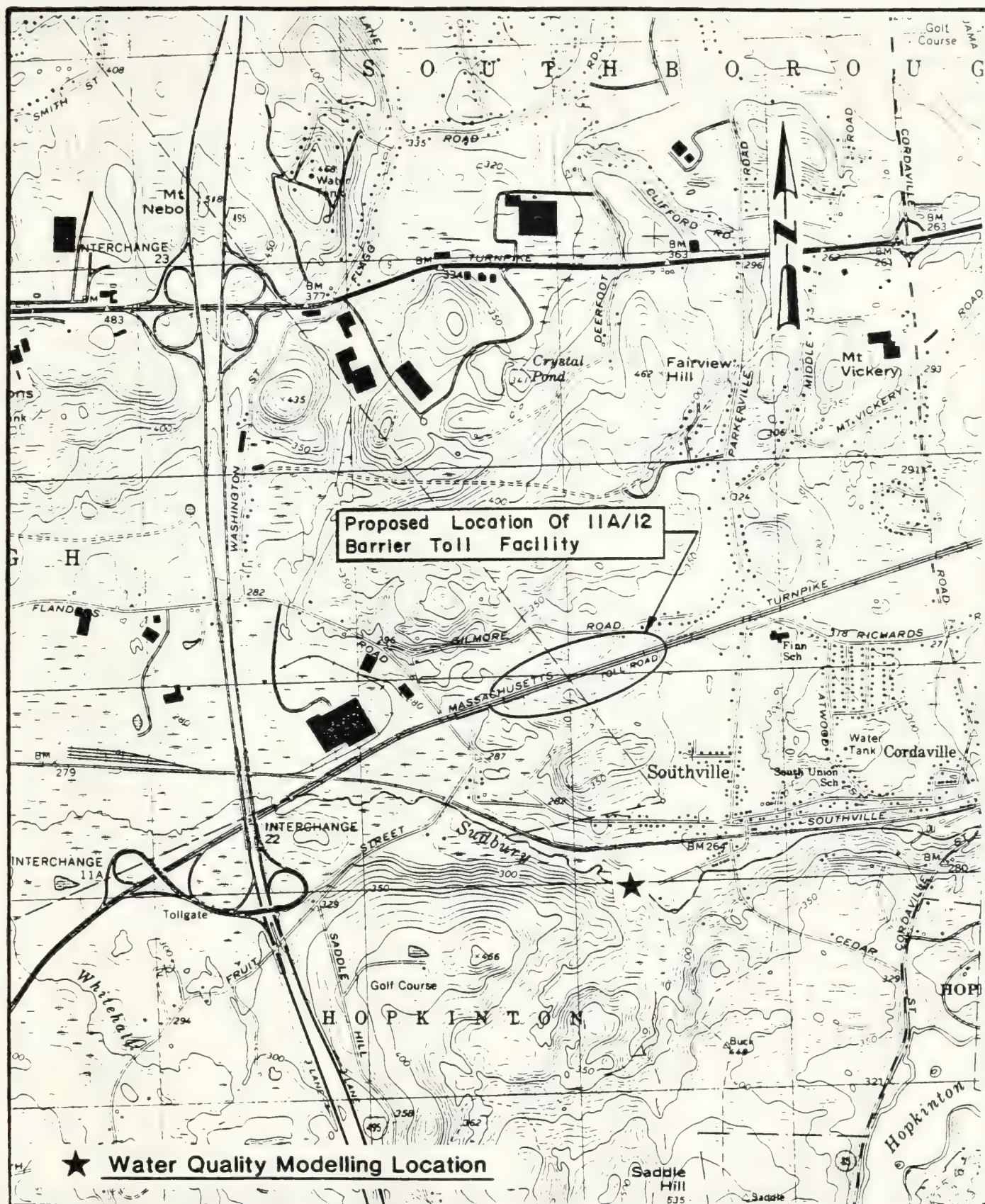
The proposed improvements at Interchange 13 will not affect any sensitive receptors.

The proposed improvements at Interchange 14 and 15 will have no impact on noise levels.

The proposed construction of the barrier toll plaza between Interchange 11A and 12 will slightly impact eighteen residences as a result of increasing of traffic noise. The three residences along the Parkerville Road underpass are slightly depressed from the turnpike. The turnpike widening will be minimal at this location. The noise levels experienced at the three residences will likely change from a steady-state noise level to more of a peak or intrusive noise level. Automobiles, and especially trucks, will create a different and sometimes louder noise as they accelerate or decelerate at the proposed barrier toll plaza. The overall noise environment will not change significantly, although the type of noise will.

The fifteen residences located north of the Turnpike along Gilmore Road will also experience an insignificant noise level increase due to traffic noise. The residences are located between the proposed barrier toll plaza and Parkerville Road, with the closest residence located approximately 300 ft from the Turnpike. Due to their proximity to the proposed barrier toll plaza, these residences will experience slightly greater increases in noise levels attributable to accelerating and decelerating. Any increase in noise levels at these residences, however, will be insignificant.





★ Water Quality Modelling Location

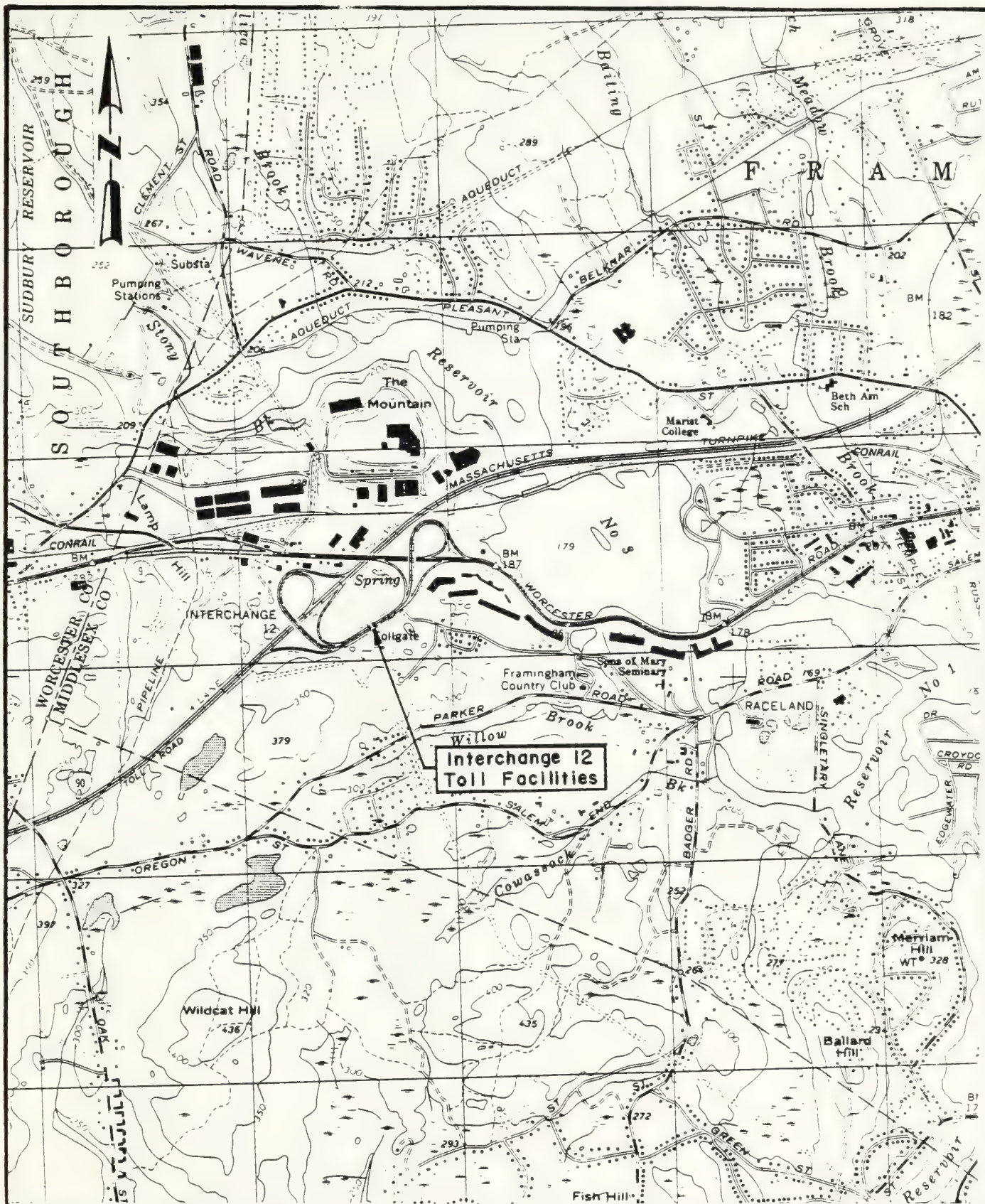
Mass. Turnpike Authority
Barrier Toll Plaza IIA/I2 and
Related Improvements
Westborough and Southborough, Mass.

Scale: 1"=2083'

LOCATION MAP

USGS QUAD: Marlborough, Mass.

Fig. 1

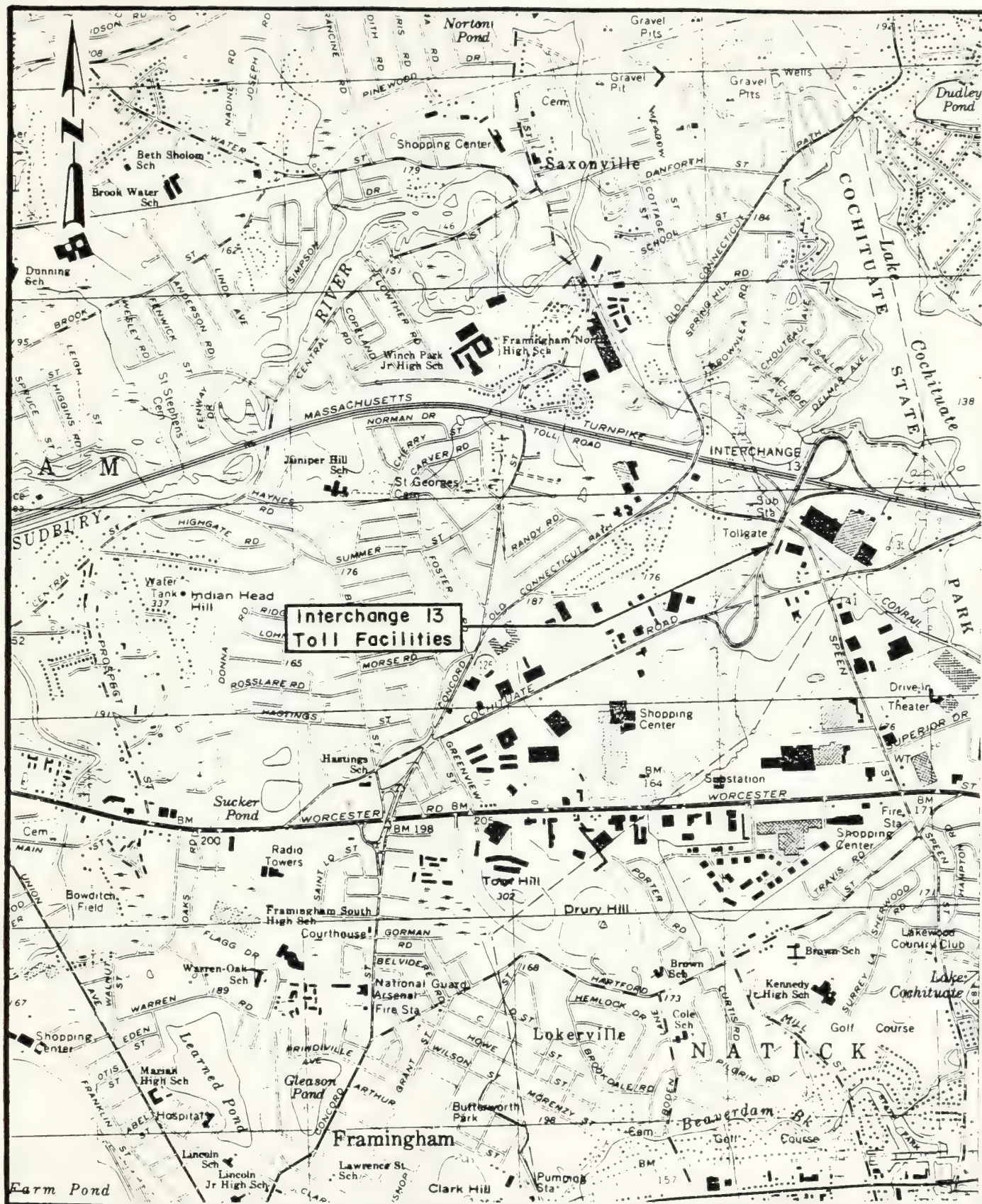


Mass. Turnpike Authority
 Barrier Toll Plaza 11A/12 and
 Related Improvements
 Framingham, Mass.
 Scale: 1"=2083'

LOCATION MAP

USGS QUAD: Framingham, Mass.

Fig. 2

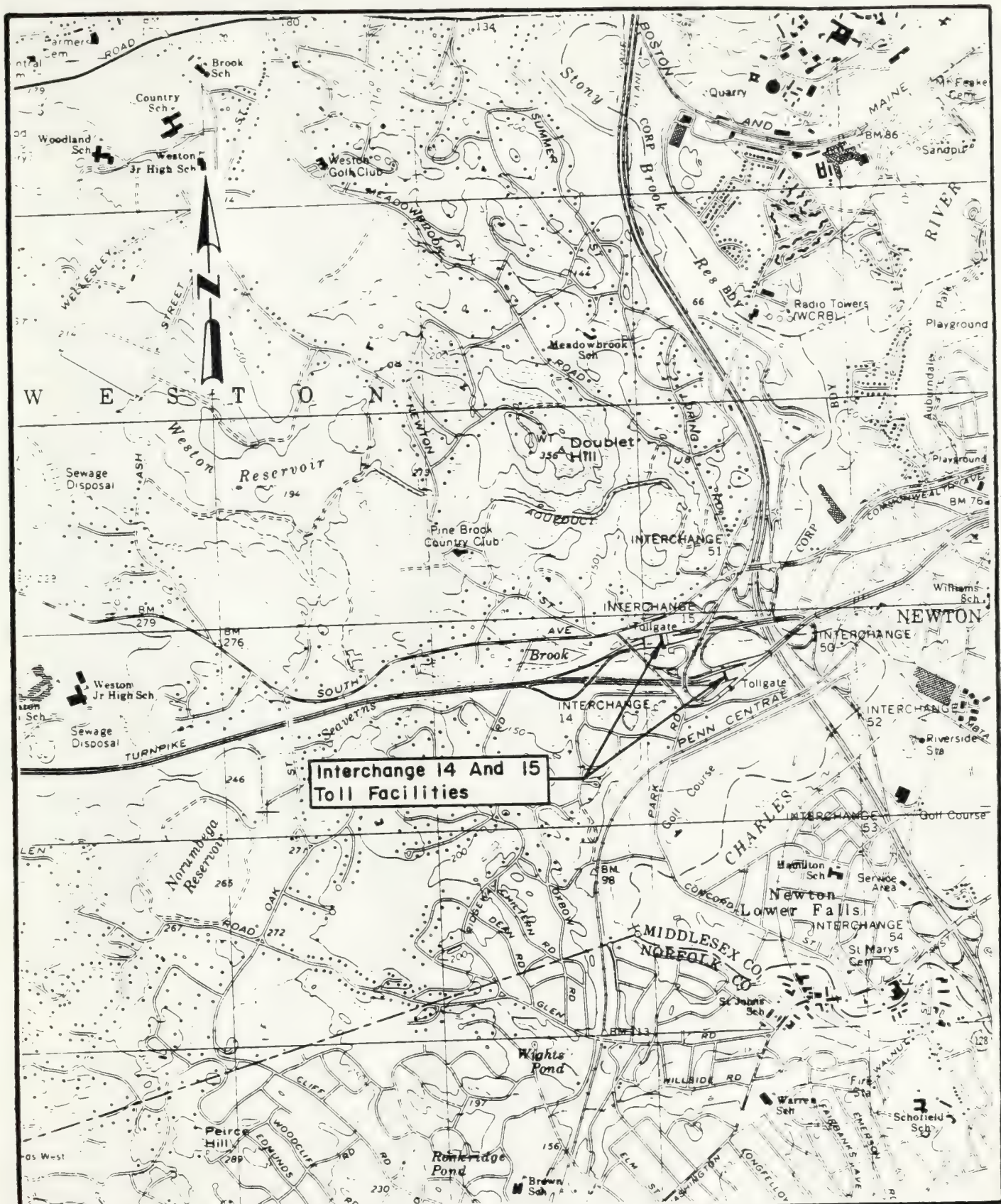


Mass. Turnpike Authority
 Barrier Toll Plaza IIA/I2 and
 Related Improvements
 Framingham, Mass.
 Scale: 1"=2083'

LOCATION MAP

USGS QUAD: Framingham, Mass.

Fig. 3



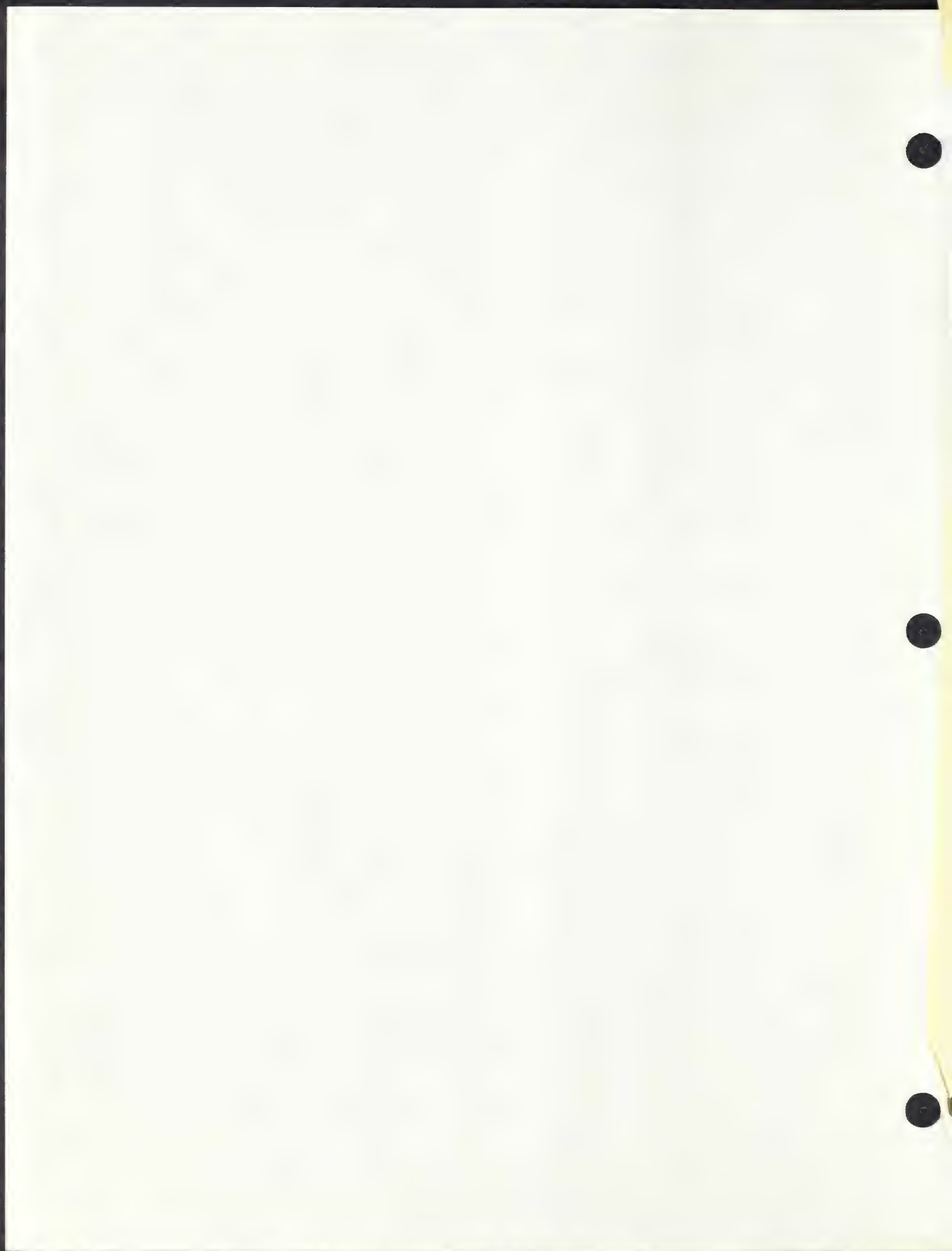
Mass. Turnpike Authority
 Barrier Toll Plaza IIA/I2 and
 Related Improvements
 Weston, Mass.

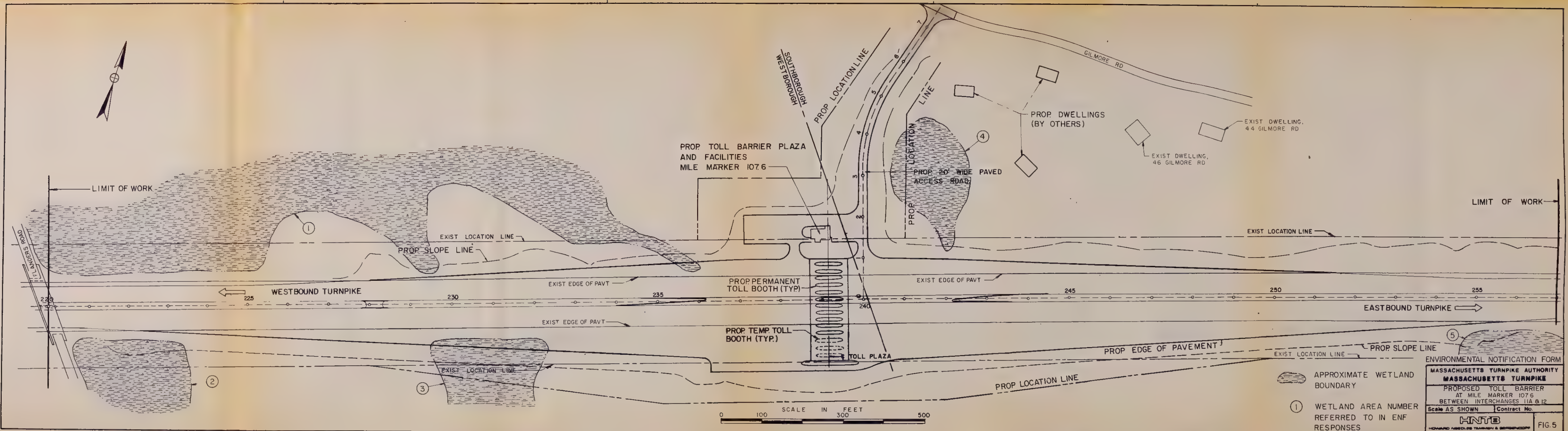
Scale: 1" = 2083'

LOCATION MAP

USGS QUAD: Natick, Mass.

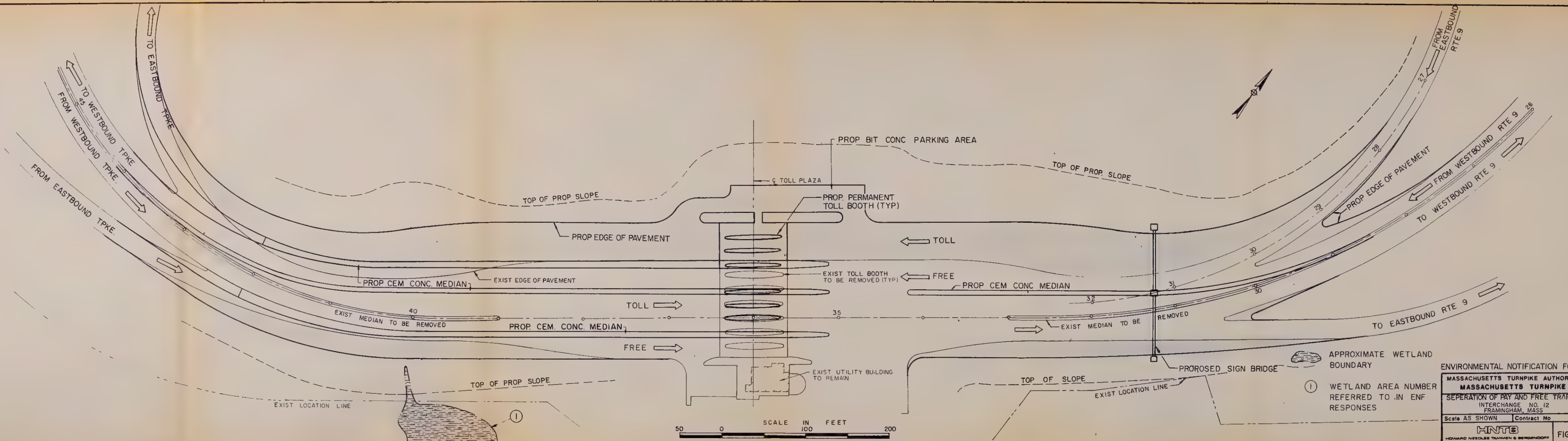
Fig. 4



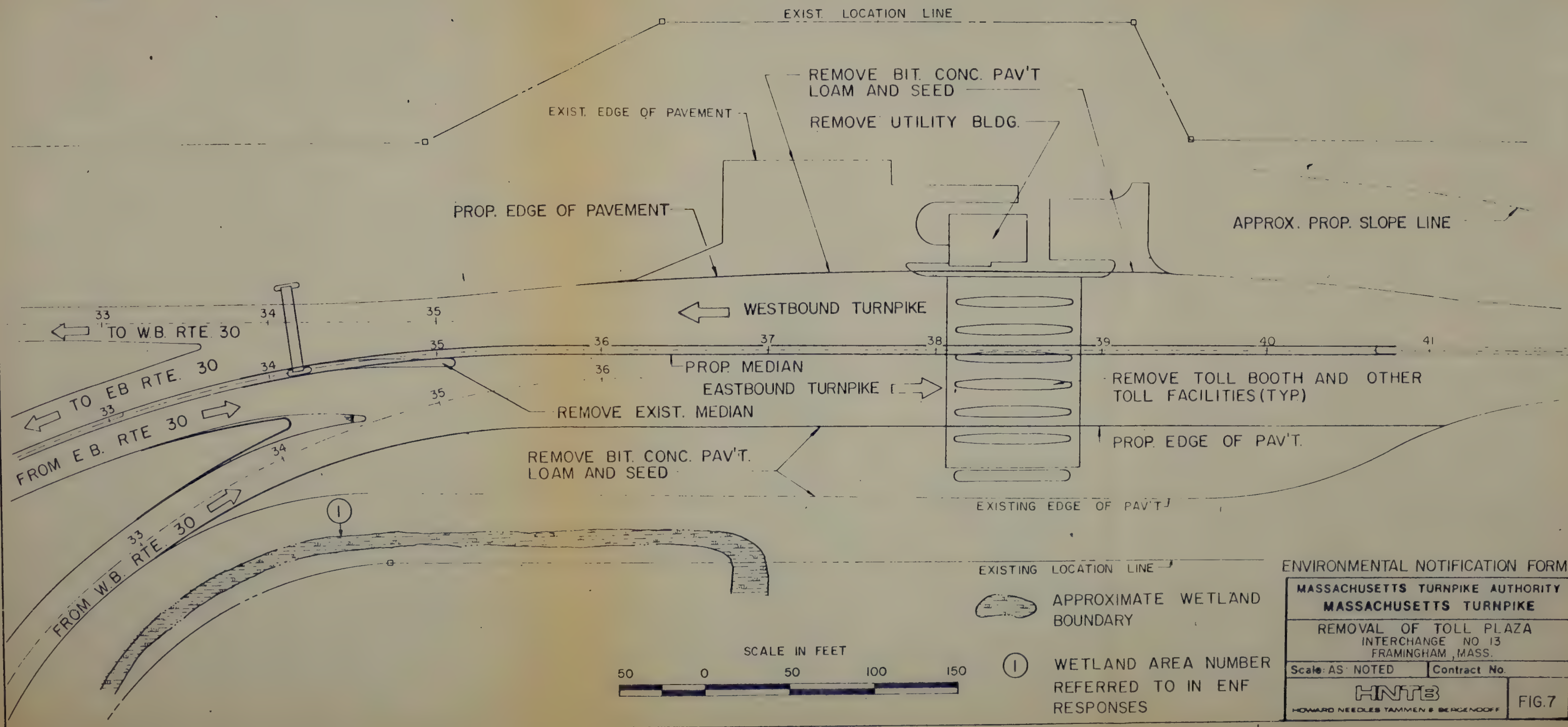
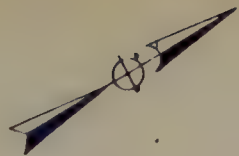


- ① APPROXIMATE WETLAND BOUNDARY
- ② WETLAND AREA NUMBER REFERRED TO IN ENF RESPONSES

ENVIRONMENTAL NOTIFICATION FORM	
MASSACHUSETTS TURNPIKE AUTHORITY	
MASSACHUSETTS TURNPIKE	
PROPOSED TOLL BARRIER	
AT MILE MARKER 107.6	
BETWEEN INTERCHANGES 11A & 12	
Scale AS SHOWN	Contract No.
HNTE	
HOWARD NEEDLES TAMM & BERENSON	
FIG. 5	



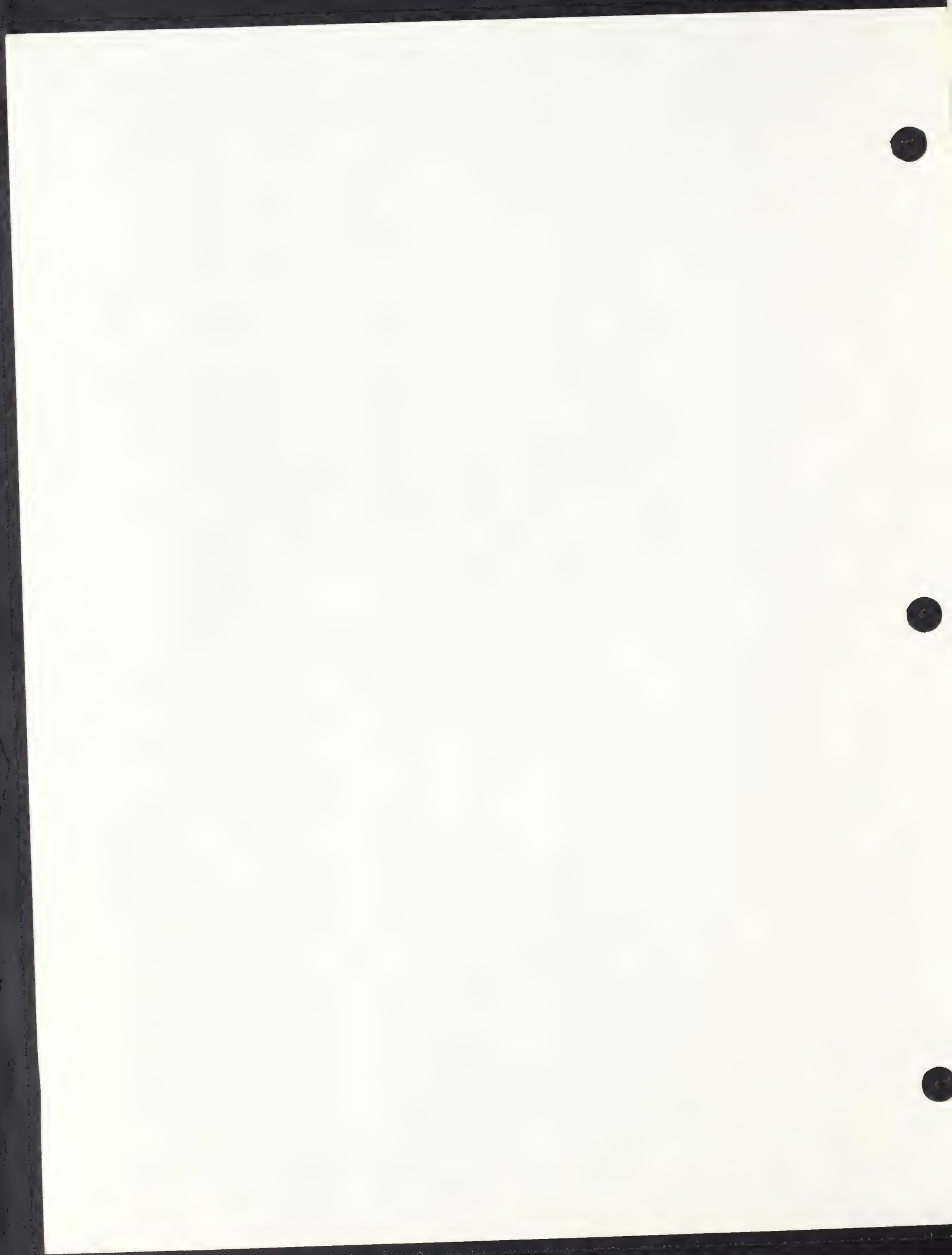
ENVIRONMENTAL NOTIFICATION FORM	
MASSACHUSETTS TURNPIKE AUTHORITY	
MASSACHUSETTS TURNPIKE	
SEPERATION OF PAY AND FREE TRAFFIC	
INTERCHANGE NO. 12	
FRAMINGHAM, MASS	
Scale AS SHOWN	Contract No
HNTE	
HOWARD NEEDLES TAMMEN & BERENDSON	
FIG. 6	



WETLAND RESOURCE AREAS
MTA BARRIER TOLL 11A/12



WETLAND 4 - Looking north.



APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification

1. Project Name MTA Interchange 13 - Ramp Widening

3. Project Proponent Mass. Turnpike Authority
Address 668 South Avenue, Weston, MA 02193

3. Project Description: (City/Town(s)) Framingham; Natick & Wayland

1. Location within city/town or street address Mass. Turnpike Eastbound on and off ramps at Interchange 13 - Mile 116.6

2. Est. Commencement Date: April 1987 Est. Completion Date: December 1987
Approx. Cost \$ 3,100,000 Current Status of Project Design: 5 % Complete

C. Narrative Summary of Project

Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

The project involves widening the existing one-lane ramps to Massachusetts Turnpike Interchange 13 (to and from the east) by up to 12 feet, thus providing two lanes on these ramps. The ramp widening extends from the toll plaza area and along the Turnpike mainline where acceleration/deceleration lanes will be lengthened to provide for safe traffic movements. The existing ramp to Interchange 13 from the east is marked for and used as a two-lane ramp; however, its width does not meet existing design standards for two-lanes. The project will correct this deficiency and improve safety on this ramp. Existing traffic volumes on the ramps being widened exceed their design capacity thus necessitating improvement to increase capacity and improve traffic safety. The ramp widening is being designed to meet the proposed widening of the Turnpike mainline from Interchange 13 easterly to Interchange 14. A separate ENF for that project has been submitted. The mainline widening portion of this project is part of the original phased construction plan for the turnpike.

The widening associated with acceleration/deceleration transition lanes into the mainline turnpike will be located on an existing embankment which crosses Lake Cochituate. Lake Cochituate is a State Park used for recreational activities. The project will not encroach into the Lake or the State Park and all work will be performed within the existing Turnpike Location Lines. Some temporary construction easements may be required. To preclude encroachment into the Lake, the widened embankment will be constructed on a steeper slope, if necessary, and adequately stabilized to prevent erosion. During design it may be found more desirable to realign the mainline roadway geometry such that

Copies of this may be obtained from:

Name: John N. Grim Firm/Agency: Mass. Turnpike Authority
Address: 668 South Ave., Weston MA 02193 Phone No. 237-3250

Use This Page to Complete Narrative, if necessary.

widening would take place toward the existing grassed median. Alternatively, a low retaining wall may be considered should encroachment be unavoidable using other measures. In addition, the Lake Cochituate culvert under the Turnpike will be either extended or the existing wingwalls raised/extended.

Three bridge structures along the ramps will be widened. These carry ramp traffic over the mainline, Speen Street and the railroad tracks. A low retaining wall may be required between the Turnpike and an existing service road along the lake. During construction, provisions will be made to accommodate traffic throughout the project area. The widening of these bridge structures will facilitate maintenance of two-way traffic during bridge deck replacement operations.

The attached Location Map (Fig. 1) shows the project area, while Figures 2A and 2B provide a plan view of basic project components.

Note that the ENF on the 11A/12 Barrier Toll facility submitted concurrently includes modifications to the toll plaza at Interchange 13.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report: YES _____ NO X

D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts	Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	_____	_____	_____	_____
Historical	_____	_____	_____	_____
Archaeological	_____	_____	_____	X
Fisheries & Wildlife	X	_____	X	X
Vegetation, Trees	_____	_____	X	_____
Other Biological Systems	_____	_____	X	_____
Inland Wetlands	_____	X	X	_____
Coastal Wetlands or Beaches	_____	_____	_____	_____
Flood Hazard Areas	_____	_____	_____	_____
Chemicals, Hazardous Substances, High Risk Operations	_____	_____	_____	_____
Geologically Unstable Areas	_____	_____	_____	_____
Agricultural Land	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____
		Mineral Resources		
		Energy Use		
		Water Supply & Use		
		Water Pollution		
		Air Pollution		
		Noise		
		Traffic		
		Solid Waste		
		Aesthetics		
		Wind and Shadow		
		Growth Impacts		
		Community/Housing and the Built Environment		

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

The proposed project is considered the only feasible alternative that will accommodate the existing and projected increase in traffic volumes at this interchange.

E. Has this project been filed with EOE A before? Yes _____ No X

If Yes, EOE A No. _____ EOE A Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X

If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name

Type of Permit

None required. Should encroachment into Lake Cochituate be unavoidable, the following permits would be required:

DEQE

Chapter 91 License

DEQE

Water Quality Certification

Corps of Engineers

Section 404/401 Permit

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?

Yes X No _____

DEQE File No., if applicable: _____

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name

Funding Amount

None

II. PROJECT DESCRIPTION

A. Include an original 8½ x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: 1.5 acres approx.

Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed 1.5 acres

4. Floodplain 0.1 acres

2. Open Space/Woodlands/Recreation _____ acres

5. Coastal Area _____ acres

3. Wetlands 0.1 acres

6. Productive Resources

Agriculture _____ acres

Forestry _____ acres

Mineral Products _____ acres

C. Provide the following dimensions, if applicable:

Length in miles _____

Number of Housing Units _____

Number of Stories _____

Existing

Immediate Increase Due to Project

Number of Parking Spaces _____

Vehicle Trips to Project Site (average daily traffic) _____

Estimated Vehicle Trips past project site 27,000 vpd

0

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection.

III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

Source: Mass. Dept. of Environmental Management

Cochituate State Park is an important recreational resource for the area. Boat access between North Pond and Middle Pond through the culvert under the Turnpike would be blocked temporarily during any work required on the headwall which may occur intermittently over a period of 6 months. The extent of the work on the headwalls will be determined in future phases of design. Short term noise impacts may also be experienced by other users of the park. Use of the service road adjacent to the Turnpike will be maintained throughout construction.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

There are no properties of historic significance in the vicinity of the project which would be affected by the proposed activities.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

There are two recorded prehistoric archaeological sites adjacent to the project area. No impact on these sites is anticipated due to the ramp widening.

C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The proposed project is anticipated to have no significant impacts on wildlife or fisheries. Some habitat loss will occur, causing displacement of some wildlife species. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered species in the vicinity of the project area. (See Appendix A)

2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: 0)

Explanation and Source:

No unique or unusual vegetation is expected to be found in the project area. The majority of the work would involve filling and paving over land in the Turnpike right-of-way that is currently maintained as an open, grassed area.

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes _____ No X

Explanation and Source:

Field investigations indicate that two (2) vegetated wetlands occur within the project limits, as well as Lake Cochituate. Appendix B provides a complete description of existing wetlands and potential impacts. The proposed project will have no significant impact on flood hazard areas.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

The project will not affect shoreline erosion or accretion.

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The areas where construction is proposed are not considered geologically unstable.

D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

This project will not affect the transport of any hazardous substances which may currently be occurring on the Turnpike. The project does not involve the storage, release, use or disposal of potentially hazardous substances.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The land within the project area is not considered viable for agricultural or forestry production.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No
- X

Explanation and Source:

There are no known mineral or energy resources within the project area.

3. Might the operation of the project result in any increased consumption of energy? Yes _____ No
- X

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

The completed project will not result in any increased consumption of energy and will reduce energy use for vehicles using the facility due to more efficient traffic flows. As with any construction activity there will be energy consumption during the construction process.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No
- X

Explanation and Source:

Existing man-made drainage system will be altered to accommodate increased pavement runoff flows. In addition, the proposed roadway widening requires that several existing drainage ditches and culverts be relocated. The proposed project will not result in any significant changes to natural drainage systems.

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes <u>X</u>	No _____
(c) Ground Water	Yes <u>X</u>	No _____

Explain types and quantities of pollutants.

See Appendix C.

3. Will the project generate sanitary sewage? Yes _____ No X

If Yes, Quantity: _____ gallons per day

Disposal by: (a) Onsite septic systems Yes _____ No _____
 (b) Public sewerage systems Yes _____ No _____
 (c) Other means (describe) _____

Not applicable.

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes X No _____

Explanation and Source:

The project is located over a highly productive aquifer, with expected well yields of over 300 gallons per minute. The Evergreen Well Field, serving Natick, utilizes this aquifer. There will be some increase in paved, impervious surface over this aquifer, but this coverage should not have significant impact on the groundwater recharge of the aquifer.

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes _____ No X

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes X No _____

Explanation and Source:

The project is not located within a watershed of a surface water supply. However, the Evergreen well field lies within 1/2 mile of the project. These wells have an annual productivity of 970 million gallons, serving Natick. (See Appendix C)

6. Might the operation of the project result in any increased consumption of water? Yes _____ No X

Approximate consumption _____ gallons per day. Likely water source(s) _____

Explanation and Source:

The project does not involve water consumption.

7. Does the project involve any dredging? Yes _____ No X

If Yes, indicate:

Quantity of material to be dredged _____
 Quality of material to be dredged _____
 Proposed method of dredging _____
 Proposed disposal sites _____
 Proposed season of year for dredging _____

Explanation and Source:

The project does not involve any dredging.

G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?

Yes ☒ No ☐

Describe type and source of any pollution emission from the project site. _____

The construction of the proposed project would have two major short-term effects: an increase in emissions caused by construction equipment and an increase in dust maintained in suspension by construction activity. Construction vehicles will emit carbon monoxide, hydrocarbons, oxides of nitrogen and particulates. Long-term ambient air concentrations will not be significantly altered by the operation of construction vehicles or by the traffic from the project, although the emissions associated with existing traffic congestion would be alleviated by improved traffic flow.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes
- ☐
- No
- ☒

Explanation and Source:

No sensitive receptors are located in close proximity to the proposed project.

3. Will access to the project area be primarily by automobile? Yes
- ☒
- No
- ☐

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

Not applicable to this highway project. No special provisions are planned for the construction activity.

H. Noise

1. Might the project result in the generation of noise? Yes
- ☒
- No
- ☐

Explanation and Source:

(Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

See Appendix D.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes
- ☐
- No
- ☒

Explanation and Source:

See Appendix D.

I. Solid Waste

1. Might the project generate solid waste? Yes ☒ No ☐

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

The proposed roadway widening project will generate a limited amount of solid waste in the form of construction debris. Existing bituminous concrete pavement, guard rails, light fixtures and other miscellaneous items will be removed and disposed of in a suitable landfill as a part of the project.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs?

Yes ☐ No ☒

Explanation and Source:

The proposed new highway lanes will resemble the existing Turnpike facilities..

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use?

Yes ☐ No ☒

Explanation and Source:

The proposed facilities will be compatible with those in the vicinity of the work.

3. Might the project impair visual access to waterfront or other scenic areas? Yes ☐ No ☒

Explanation and Source:

Not applicable.

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes ☐ No ☒

Explanation and Source:

Not applicable.

IV. CONSISTENCY WITH PRESENT PLANNING

- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The proposed interchange widening is being done in accordance with the Turnpike Authority's current plan to upgrade and modify the existing toll collection system and to widen and improve interchange ramps and a section of the Mainline. This program will significantly enhance traffic operations and safety on the Turnpike.

V. FINDINGS AND CERTIFICATION

- A. The notice of intent to file this form has been/will be published in the following newspaper(s):

(Name) Boston Globe (Date) Week of July 7th(Est.)
Middlesex News Week of July 7th(Est.)

- B. This form has been circulated to all agencies and persons as required by Appendix B.

June 23, 1986

Date


 Signature of Responsible Officer
 or Project Proponent

John N. Grim

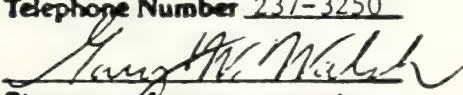
Name (print or type)

Address Mass. Turnpike Authority
668 South Avenue - Weston, MA 02193

Telephone Number 237-3250

June 23, 1986

Date


 Signature of person preparing
 ENF (if different from above)

Gary W. Walsh

Name (print or type)

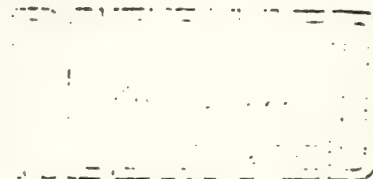
Address HNTB, 4200 Prudential Center
Boston, MA 02199

Telephone Number 267-6710

APPENDIX A



Massachusetts Natural Heritage Program



April 16, 1986

Ms. Amy Hogeland
Jason Cortell & Assoc.
144 Second Ave.
Waltham, MA 02154

RE: Massachusetts Turnpike Improvements

Dear Ms. Hogeland,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant communities in the vicinity of the proposed improvements to the Massachusetts Turnpike, as referenced in your letter of April 11, 1986.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities which would be affected by this project.

As you know, our inventory is ongoing, so more data on this area may become available in the future.

Sincerely,

Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm

APPENDIX B

APPENDIX B - WETLANDS

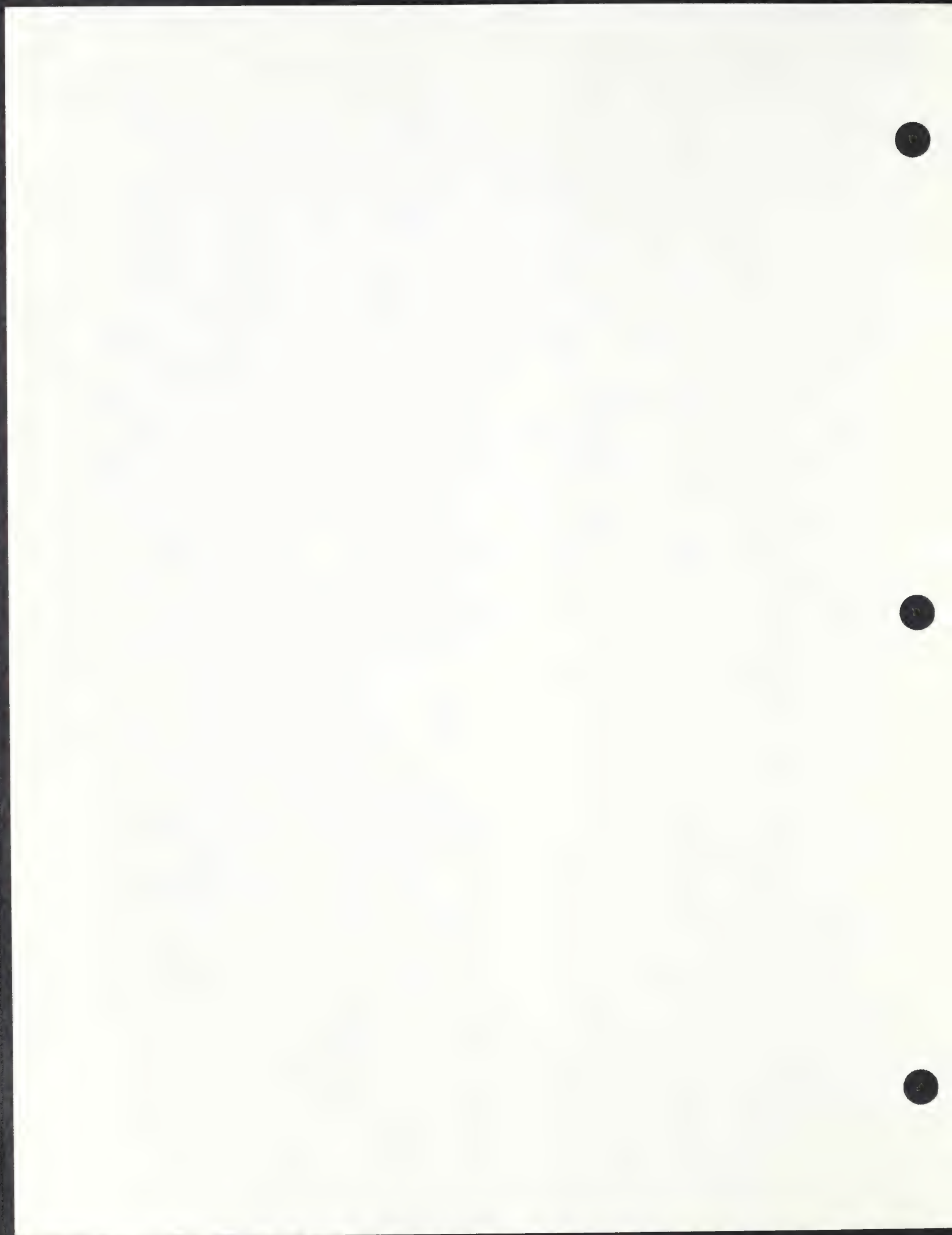
INTERCHANGE 13

Prior to evaluating wetlands impacts, field investigations were conducted to identify wetland resources within the project limits. Wetland boundaries were approximately located in the field by measuring distances from established points of reference such as existing pavement, bridges, culverts, etc. These wetlands boundaries were then transferred onto 1"=100' maps (Figure 2A and 2B).

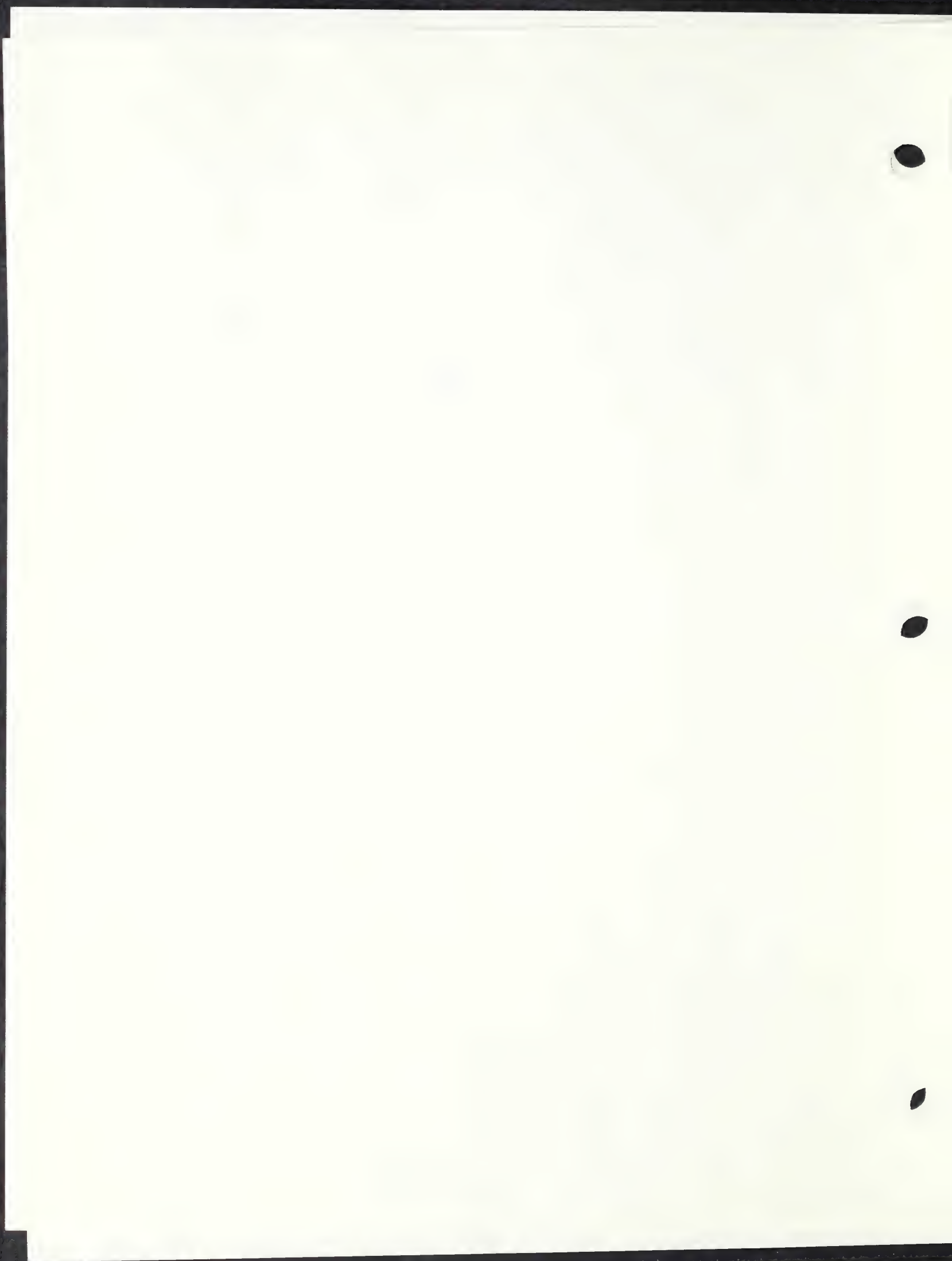
Field investigations indicate three (3) wetland resource areas within 100 ft. of proposed activities. Wetland 1 is a scrub/shrub wetland associated with Cochituate Brook in the northwestern section of the project area. This area is dominated by species which as red-osier dogwood (*Cornus stolonifera*), red maple (*Acer rubrum*), and sweet pepperbush (*Clethra alnifolia*). Wetland 2 is also a scrub/shrub wetland with similar plant species. It is located off the eastbound lanes, east of the exit/entrance ramps. Wetland 3 is Lake Cochituate. As the Lake has relatively steep banks, little wetland vegetation is present. Photographs of Wetland Area 3 are presented in Figure 3.

The proposed ramp widening at Interchange 13 is expected to have only a minor impact on wetlands. As the wetland areas are located at the toe of existing roadway embankment slopes, encroachment can be avoided (or minimized) by using steeper side slopes than existing. This approach will result in only a minor impact to the edges of the wetland at the toe of existing embankments. All embankment slopes will be stabilized to control erosion and if slopes greater than 2:1 (horizontal to vertical) are required, they will be protected with crushed stone. As widening will mostly occur on the existing roadway embankments, only temporary impacts such as turbidity are anticipated. These impacts will be kept to a minimum by following standard sediment and erosion control plans.

Without controls, some encroachment into Lake Cochituate would be required; however, encroachment into Lake Cochituate will be avoided by using steeper embankment slopes as discussed above and if necessary (and acceptable to design standards) by realigning roadway geometry such that the roadway widening would take place toward the existing grassed median. Alternatively, a low retaining wall may be considered during design should encroachment be unavoidable by other methods and avoidance of encroachment into the Lake become an absolute project requirement.



APPENDIX C

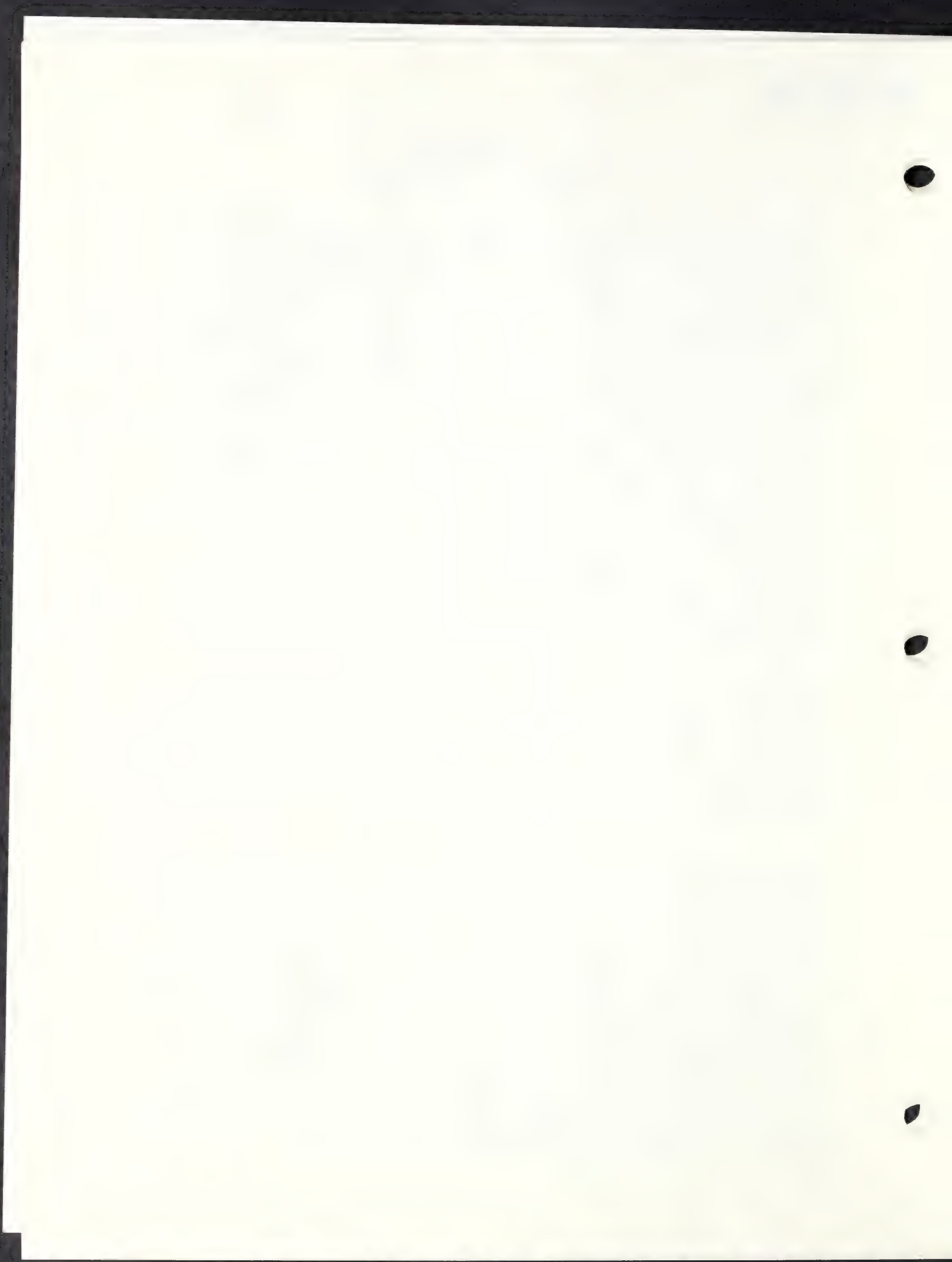


INTERCHANGE 13
APPENDIX C - WATER QUALITY

The proposed improvements at Interchange 13 will result in some minor impact to the water quality of Lake Cochituate, as well as that of the underlying aquifer. Water quality impacts result from sedimentation and erosion during construction, road salt use during winter storms, and petroleum products, nutrients and metals from highway runoff. Construction-related water quality impacts are only temporary, and will be sufficiently mitigated by implementing an effective soil erosion and sediment control plan. Other water quality constituents, such as petroleum products, nutrients, metals and BOD, are present in highway runoff in proportion to the traffic volume. Because the proposed turnpike improvements will not result in increased traffic volumes other than normal growth, there will be no water quality impacts regarding the above constituents as a consequence of this project. Water quality data from Lake Cochituate is available from the USGS, in Open File Report #84-4315. A detailed water quality survey of Lake Cochituate was done during 1977 through 1979. A summary of the results is attached.

The potential water quality impact that can be directly attributed to this project is slightly elevated levels of sodium and chloride in surface and groundwater, as a consequence of increased salt use on the turnpike. The significance of the increased sodium and chloride levels has been predicted for surface and groundwater using standard methods.

The U.S.G.S. performed detailed studies in several Massachusetts streams of the response in sodium chloride levels to increased salt usage within the watershed (U.S.G.S.; OFR 81-209, 1981). Equations were developed from these studies that predict the increase of the average and maximum expected sodium and chloride concentrations resulting from a particular annual salt application. The existing conditions are based on water quality data collected in 1977 through 1979 by the Massachusetts Division of Water Quality Pollution Control. A summary of this data is attached. Other factors considered in this method include the drainage area; average annual discharge; lake, pond and wetland storage area; slope of the watershed; and annual salt usage within the watershed, in tons.

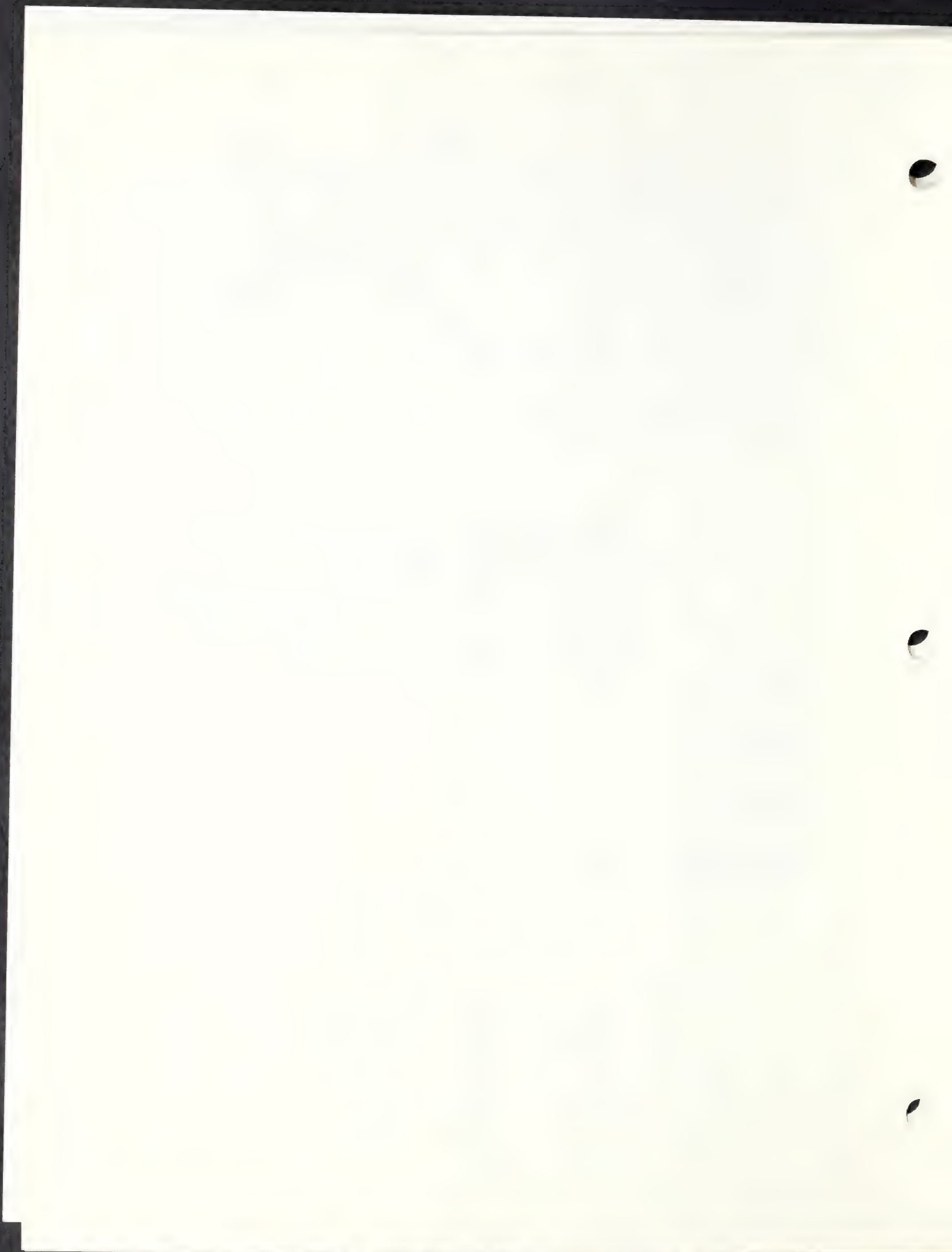


The watershed area of Lake Cochituate, which encompasses the entire interchange, was used to model the water quality impacts. The calculations are based on the interchange improvements which result in 2.0 lane-miles of additional road surface to be de-iced. Other turnpike improvements, (i.e., widening of the mainline), will result in a further increase of 1.8 lane-miles draining to Lake Cochituate. Calculations were done to determine the impact of Interchange 13 improvements alone, as well as the cumulative impacts of this and other proposed improvements. Based on an average annual salt use rate of 20 tons per lane-mile, the existing and future annual salt loads were determined. Table I shows these predicted concentrations in Lake Cochituate.

Table I

EXISTING AND FUTURE CONCENTRATIONS
OF SODIUM AND CHLORIDE IN COCHITUATE BROOK
RESULTING FROM PROPOSED INTERCHANGE IMPROVEMENTS

	<u>Interchange 13 Only</u>		<u>Interchange 13 in Addition to Other MTA Improvements</u>
	<u>Existing</u>	<u>Future</u>	<u>Future</u>
Mean Chloride Concentration	53	54	55
Maximum Chloride Concentration	64	65.5	66.7
Mean Sodium Concentration	29.3	29.6	30.0
Maximum Sodium Concentration	38.8	39.4	40.1



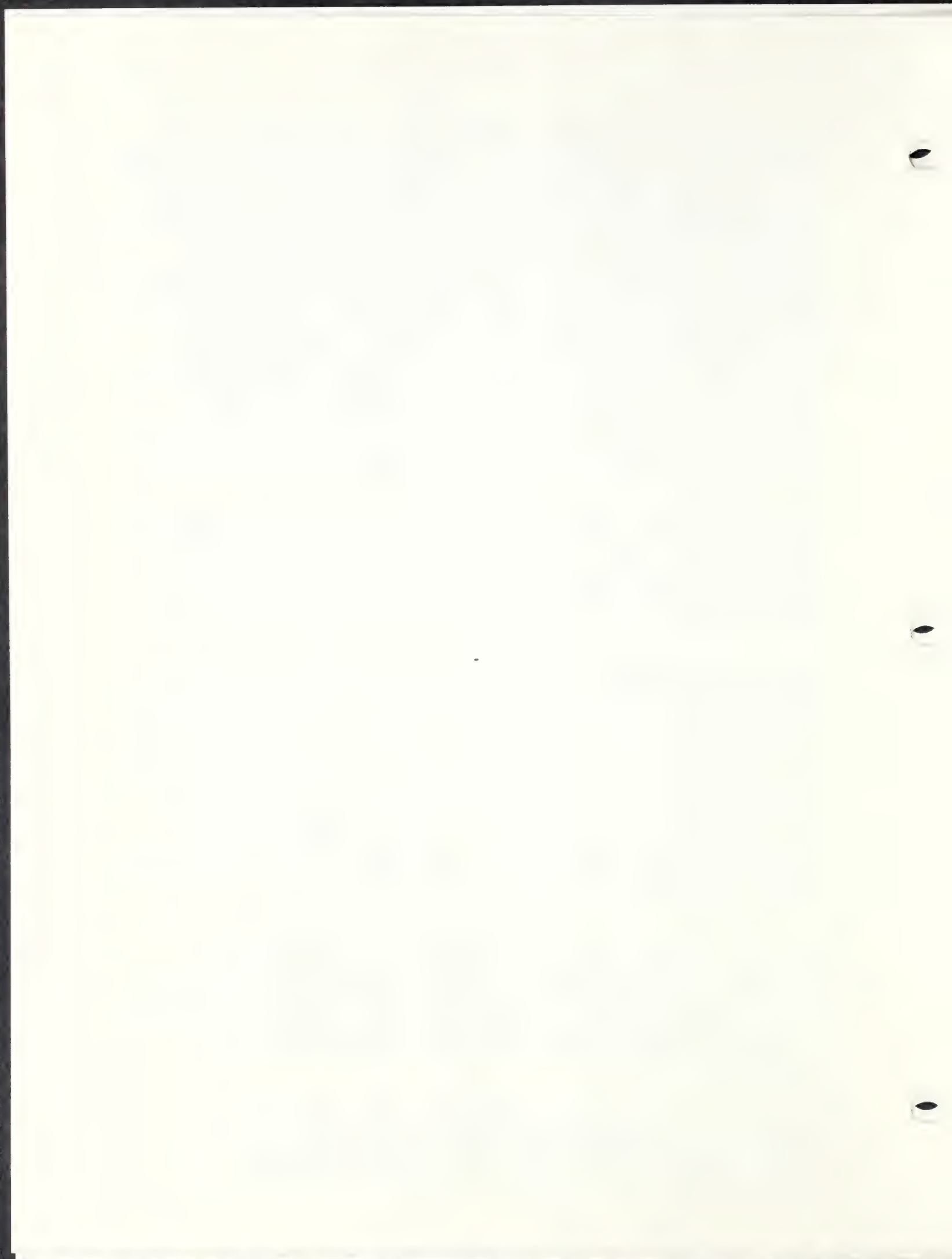
Lake Cochituate is designated a "Class B" water for which there are no specific sodium and chloride limits. Although Lake Cochituate is not being used as a surface water supply, it does provide groundwater recharge for wells used by the Town of Natick municipal water supply. The impacts on groundwater quality are of concern as they relate to drinking water standards. The Evergreen well field, which lies along Lake Cochituate within 1/2 mile of the project, has had sodium levels ranging from 25 mg/l to 40 mg/l based on the past 3 years of data. Although there are no drinking water standards for sodium, Massachusetts has adopted a health advisory limit of 20 mg/l for drinking water supplies. The increase of 0.63 mg/l in the sodium concentration is not significant relative to existing levels and, in itself, is not considered a public health threat. Chloride levels are well within the drinking water standard of 250 mg/l.

The feasibility of diverting runoff from a portion of the interchange into Cochituate Brook, which is not a supply source, was examined. Such a diversion would only reduce the average sodium concentrations in Lake Cochituate by 0.04 mg/l, however, and is not considered warranted.

The Authority's general policy and practice for snow and ice control operations is to minimize the use of road salt while maintaining adequate levels of service and safe travel on the Turnpike. consistent with this policy, and in order to minimize the impact on the environment from the use of deicing chemicals, the Authority annually instructs all employees involved with the snow and ice control procedures. Automated spreading equipment is used by the Authority to precisely measure and control applications rates. After each storm supervisory personnel closely monitor reports of salt use.

The Authority further adheres to guidelines for deicing chemical application rates resulting from the Generic Environmental Impact Report for Snow and Ice Control Operations (1978). The Authority is participating in an update to the GEIR and participated in the preparation of the original EIR.

The Authority is also committed to further improving its snow and ice control procedures based on viable new technology and advances in the state-of-the-art. As an example, the Authority is installing remote



sensors at several locations along the roadway to provide continuous monitoring of actual road conditions during storms. This is seen to be an aid in dispatching equipment and further reducing salt use.

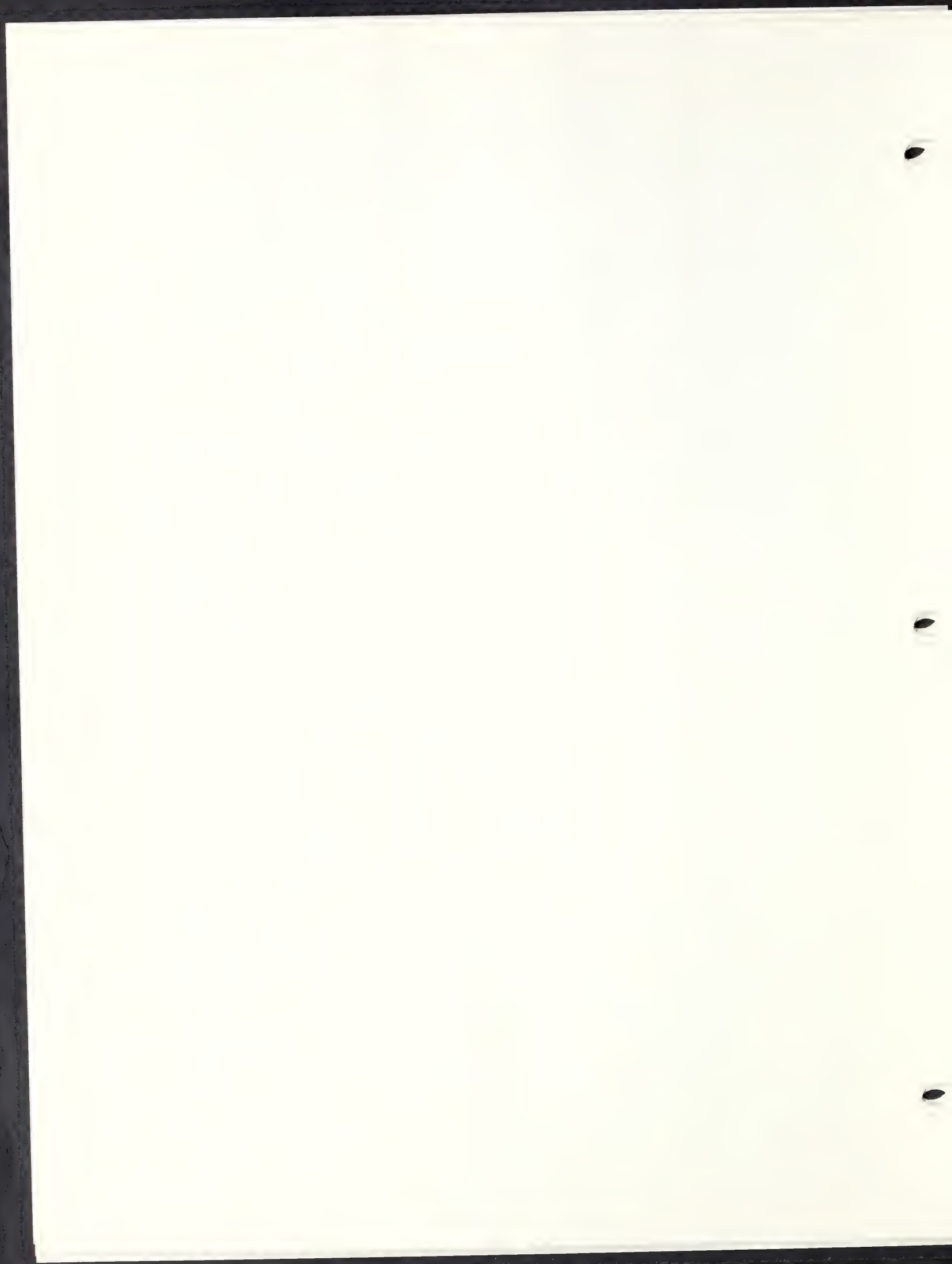
Strict adherence to the Authority's snow and ice control procedures and applicable EIR guidelines will continue and will minimize any impacts on water quality resulting from this project.

AVERAGE WATER QUALITY DATA
June 1977 to June 1979

(Massachusetts DEQE Division of Water Pollution Control)

<u>Parameter</u>	<u>Lake Cochituate (North Basin)</u>	<u>Lake Cochituate (@ I-90 Bridge)</u>
pH	7.4	7.4
Total Alkalinity	28.5	22.1
Total Hardness	42.6	44
Suspended Solids	5.0	2.7
Total Solids	158	163
Specific Conductivity (umhos/cm)	260	252
Total Kjeldahl Nitrogen	1.23	0.72
Ammonia Nitrogen	0.04	0.06
Nitrite Nitrogen	0.007	0.002
Nitrate Nitrogen	0.162	0.23
Total Phosphorus	0.12	0.038
Ortho-phosphorus	0.09	0.02
Silica	3.22	2.2
Chloride	52.6	54.2
Iron	0.40	0.158
Manganese	0.14	0.04

Appendix D



APPENDIX D - NOISE

PROPOSED RAMP WIDENING AT INTERCHANGE NO. 13

The proposed widening at Interchange No. 13 would result in an increase in short-term construction (peak) noise levels and insignificant increases in traffic (steady-state) noise levels. No sensitive receptors are located in close proximity to the proposed project, although several commercial receptors could experience an increase in noise levels.

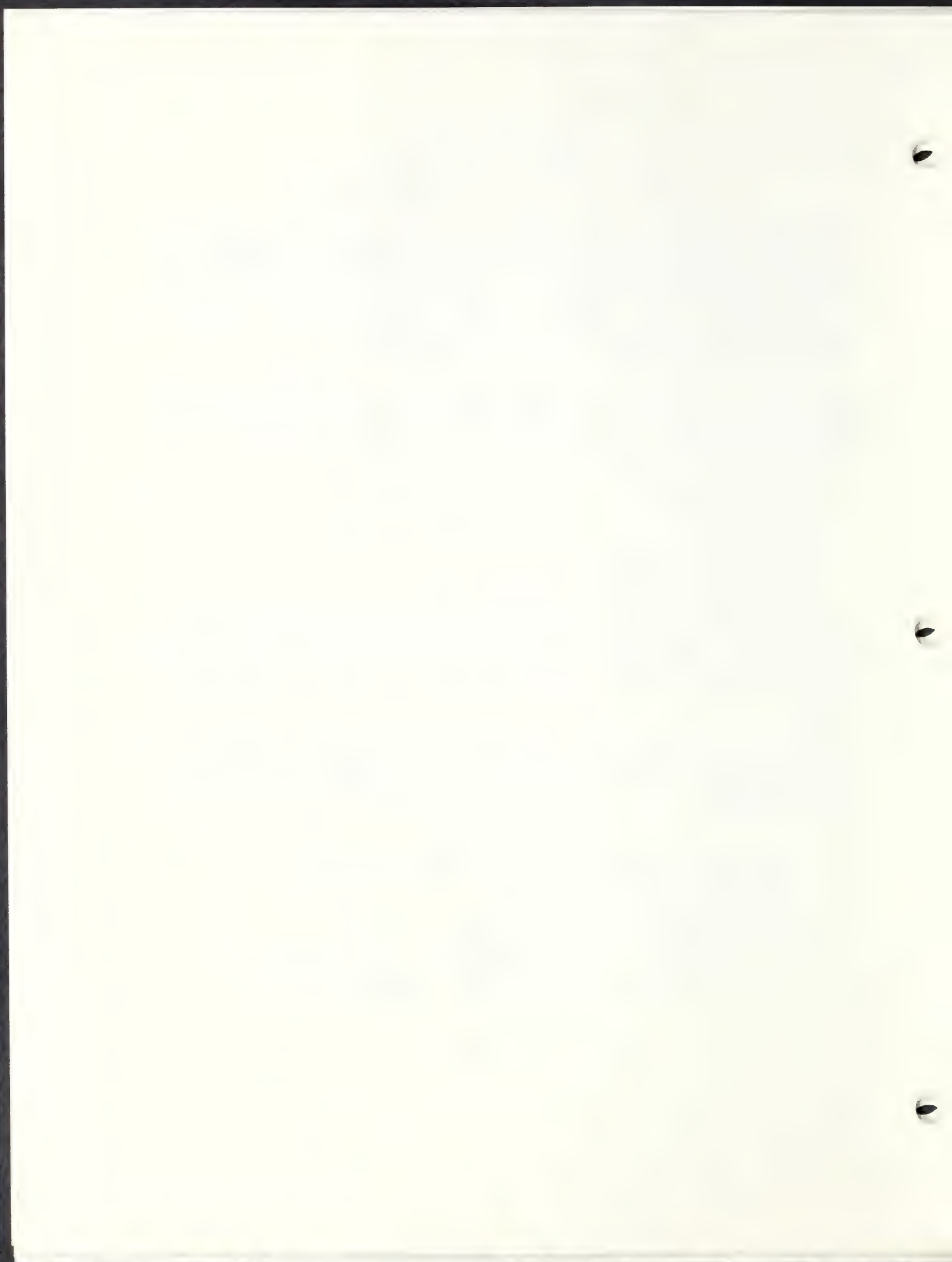
Construction noise would be caused primarily by the engine exhaust of construction equipment. The widening of the ramps and mainline would include the following consecutive phases:

- o Ground clearing
- o Earthwork
- o Erection of structures
- o Finishing including filling, paving, grading and cleanup operations

In addition, pile driving is expected for the bridge carrying ramp traffic over the turnpike. This structure is remote from potential receptors.

All noise level increases due to construction would, however, be short-term and could be controlled by the use of one or a combination of the following general methods:

- o Installation of noise reduction devices on equipment
- o Enforcing operation time controls
- o Use of alternative, quieter equipment
- o Use of shielding or screening devices on or around equipment





Mass. Turnpike Authority

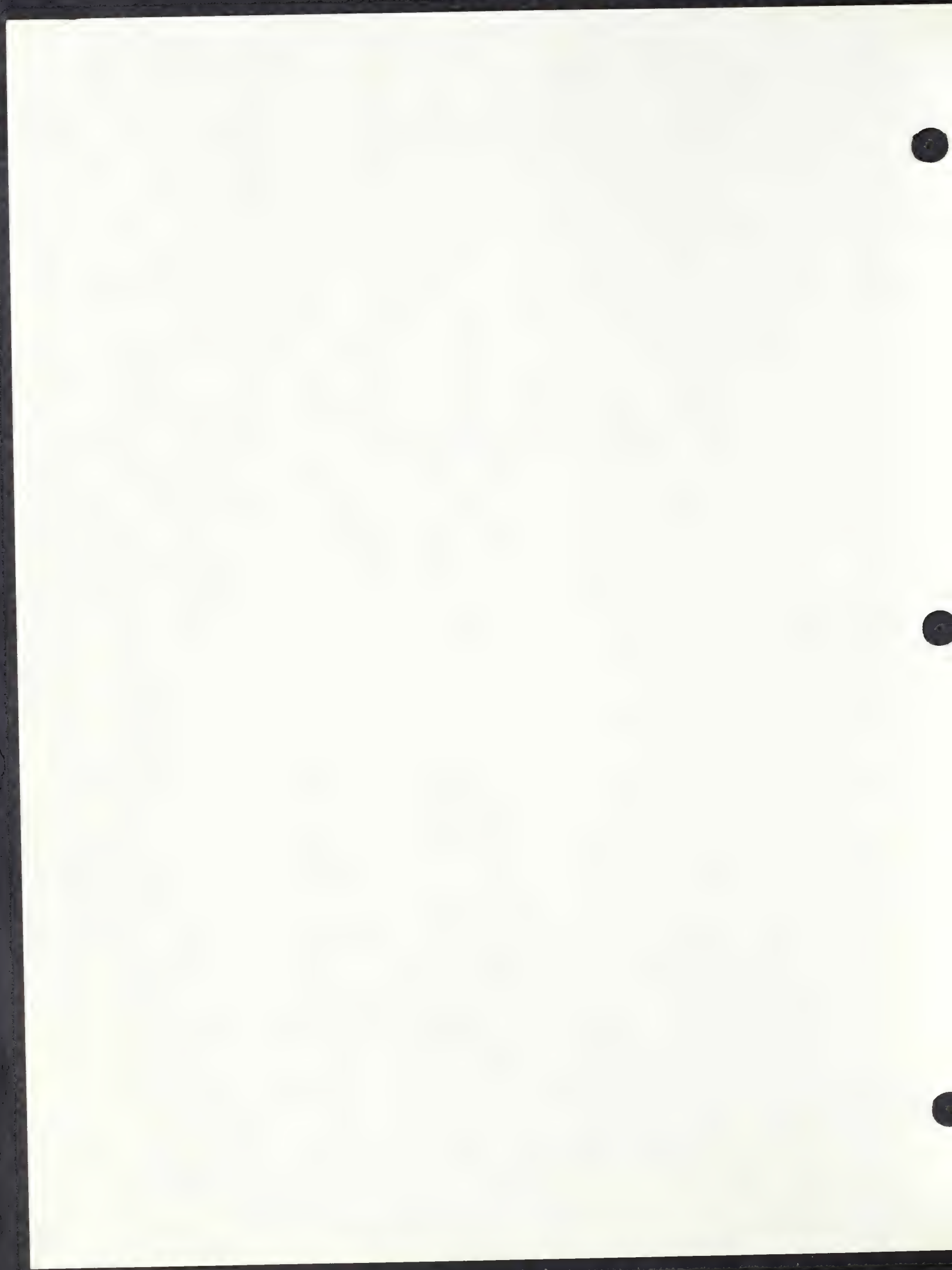
**Interchange 13 Ramp Widening
Framingham and Natick, Mass.**

Scale: 1" = 2083'

LOCATION MAP

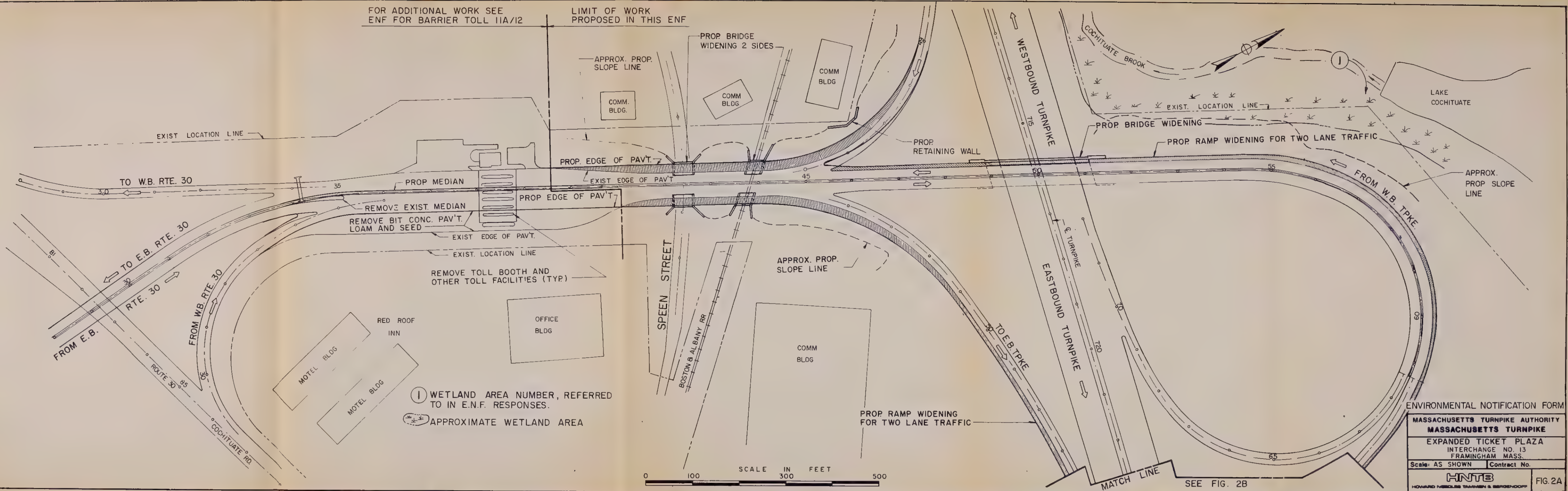
Natick, Mass. and
USGS QUAD: Framingham, Mass.

Fig. 1



FOR ADDITIONAL WORK SEE
ENF FOR BARRIER TOLL 11A/12

LIMIT OF WORK
PROPOSED IN THIS ENF



① WETLAND AREA NUMBER, REFERRED
TO IN E.N.F. RESPONSES.

② APPROXIMATE WETLAND AREA

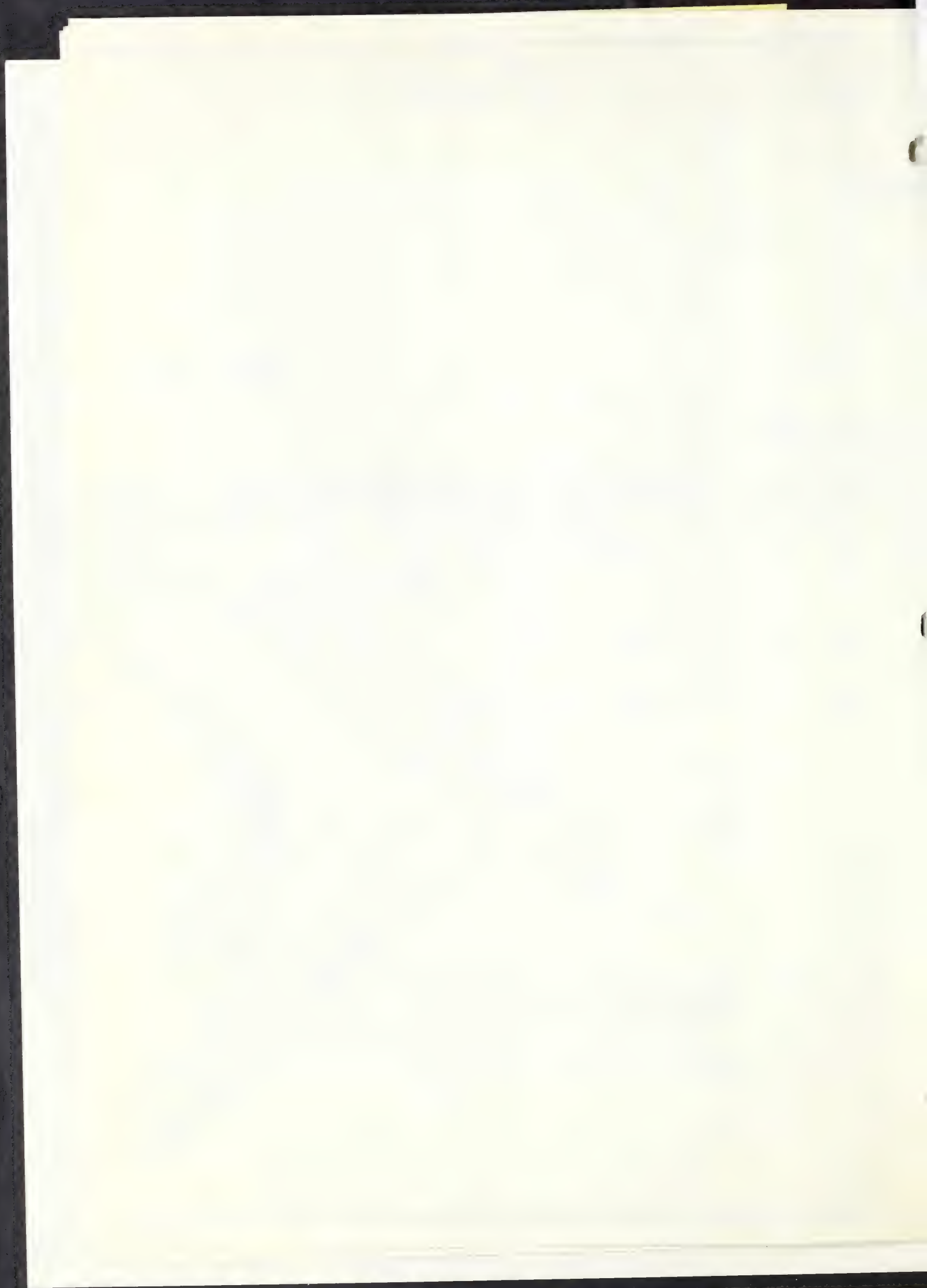
ENVIRONMENTAL NOTIFICATION FORM

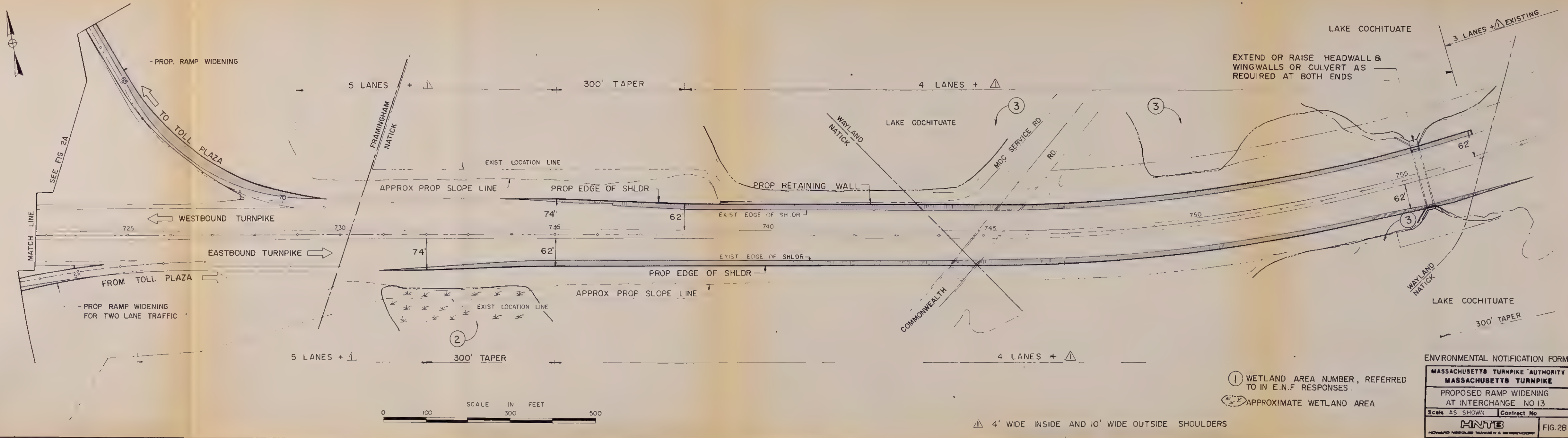
MASSACHUSETTS TURNPIKE AUTHORITY
MASSACHUSETTS TURNPIKE
EXPANDED TICKET PLAZA
INTERCHANGE NO. 13
FRAMINGHAM, MASS.

Scale: AS SHOWN Contract No.

HNTB
HOWARD NEEDLES TAMMEN & BERENDSON

FIG. 2A





① WETLAND AREA NUMBER, REFERRED TO IN E.N.F. RESPONSES.
② APPROXIMATE WETLAND AREA

ENVIRONMENTAL NOTIFICATION FORM	
MASSACHUSETTS TURNPIKE AUTHORITY MASSACHUSETTS TURNPIKE	
PROPOSED RAMP WIDENING AT INTERCHANGE NO 13	
Scale AS SHOWN	Contract No
HNTB HOWARD NEEDLES TAMMEN & BERENSON	
FIG. 2B	

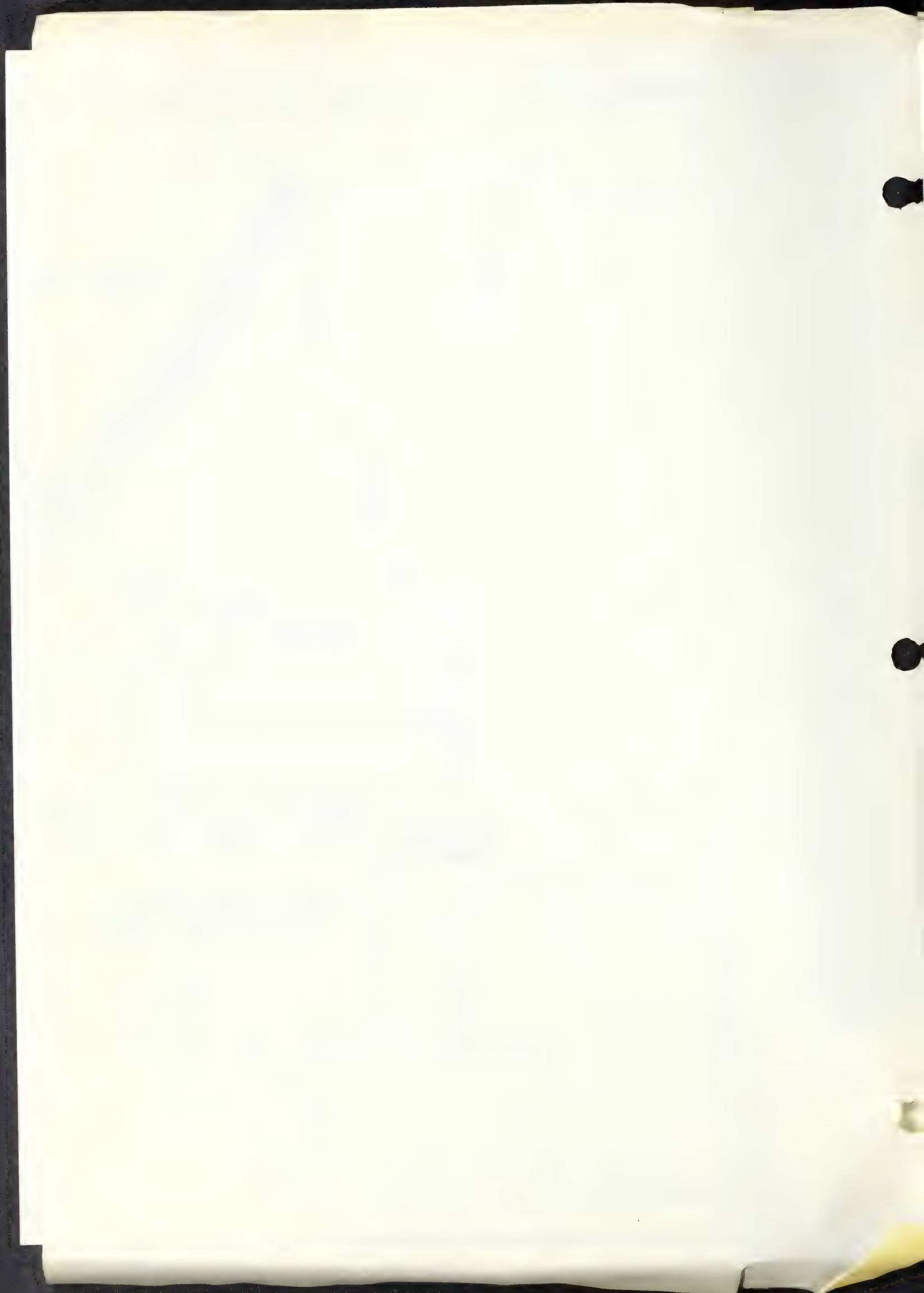
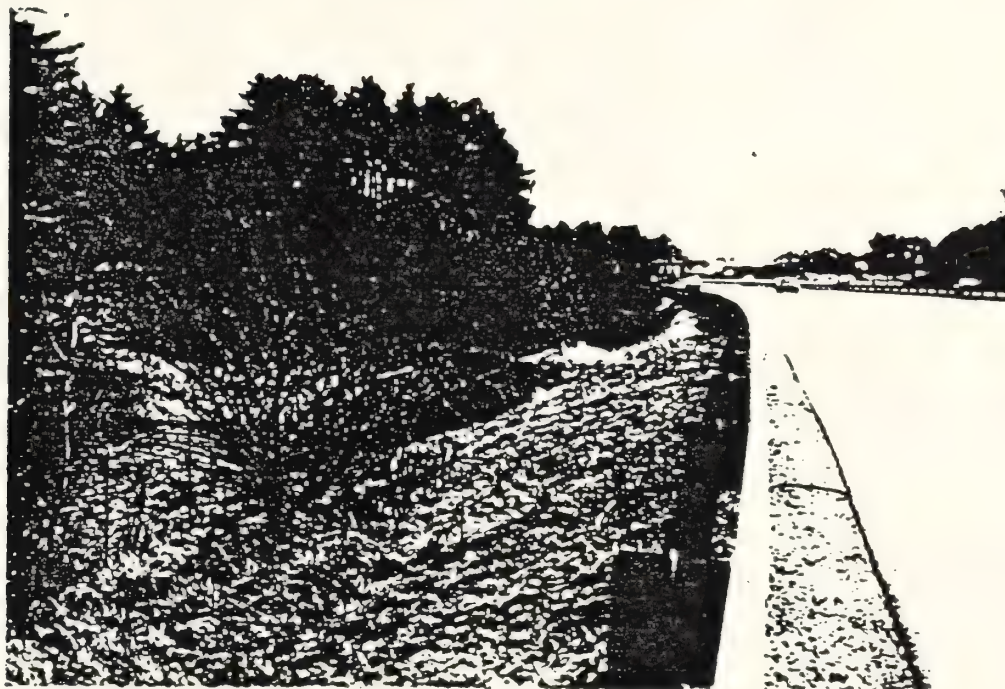


FIGURE 3

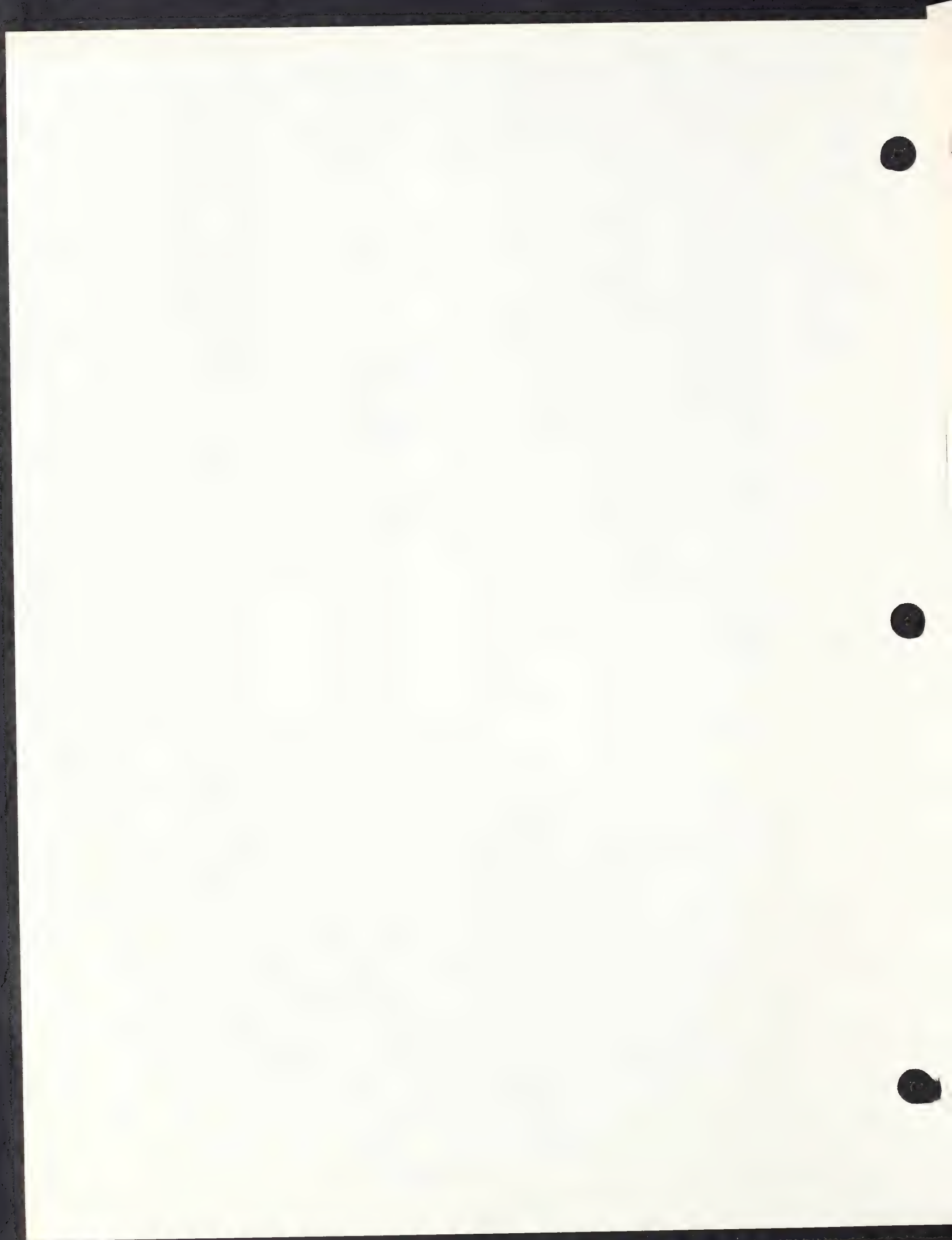
INTERCHANGE 13



WETLAND AREA 3 - Turnpike Westbound
looking east along embankment at Lake Cochituate



WETLAND AREA 3 - Turnpike Eastbound
looking east along embankment at Lake Cochituate





**APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS**

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification

1. Project Name Mass. Turnpike Authority - Mainline
Widening between Interchanges 13 and 14
2. Project Proponent Mass. Turnpike Authority
Address 668 South Avenue, Weston, MA 02193

B. Project Description: (City/Town(s)) Framingham, Natick, Wayland and Weston

1. Location within city/town or street address Mass. Turnpike between Interchange 13
(Mile 116.6) and Interchange 14 (Mile 123.12)
2. Est. Commencement Date: April 1988 Est. Completion Date: December 1989
Approx. Cost \$ 16,000,000 Current Status of Project Design: 5 % Complete

C. Narrative Summary of Project

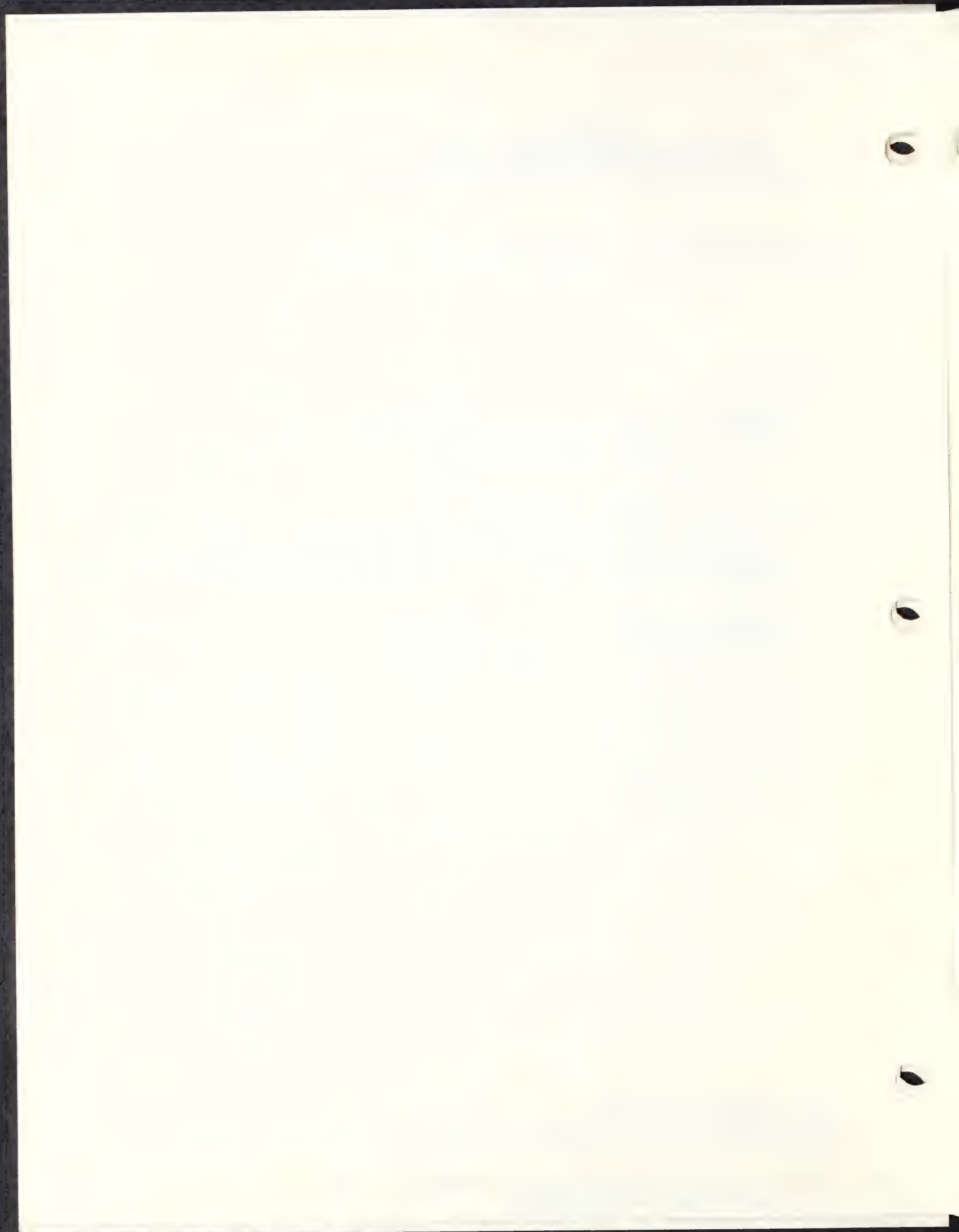
Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

The Turnpike mainline between Interchange 13 and Interchange 14 will be widened from six to eight lanes as shown on Figures 1, 2 and 3. The purpose of the project is to alleviate existing and future capacity deficiencies on this section of roadway. The length of widening is approximately 4.4 miles, and work will be primarily within the existing location lines. Development bordering the right-of-way consists mostly of scattered residences plus two areas of more densely developed subdivisions. Most of the houses are presently buffered from Turnpike activity by a vegetative screen. Proposed work includes the following elements:

- o widening of the three-span bridge over North Main Street on both sides
- o widening of the single-span bridge over Mary Day Camp Road on both sides
- o widening of the single-span bridge over Wellesley Street on both sides
- o widening the concrete bridge structures for the MDC aqueduct near Wellesley Street on both sides
- o widening the box culvert for the Bogle Brook crossing on both sides

Copies of this may be obtained from:

Name: John N. Grim Firm/Agency: Mass. Turnpike Authority
Address: 668 South Avenue, Weston, MA 02193 Phone No. 237-3250



Use This Page to Complete Narrative, If necessary.

The proposed widening is part of the original phased plan for the Turnpike. All of the highway cuts, including rock cuts, required for the widening were accomplished during the initial construction of the Turnpike thereby leaving only the embankments to be widened. The interchanges and service areas in this section were originally constructed to meet the widths of this planned expansion. The bridges carrying Turnpike traffic are required to be widened to provide an emergency lane. The bridges carrying local roads over the Turnpike were originally constructed with sufficient spans over the Turnpike to accomodate the widening of an additional lane.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report: YES _____ NO X

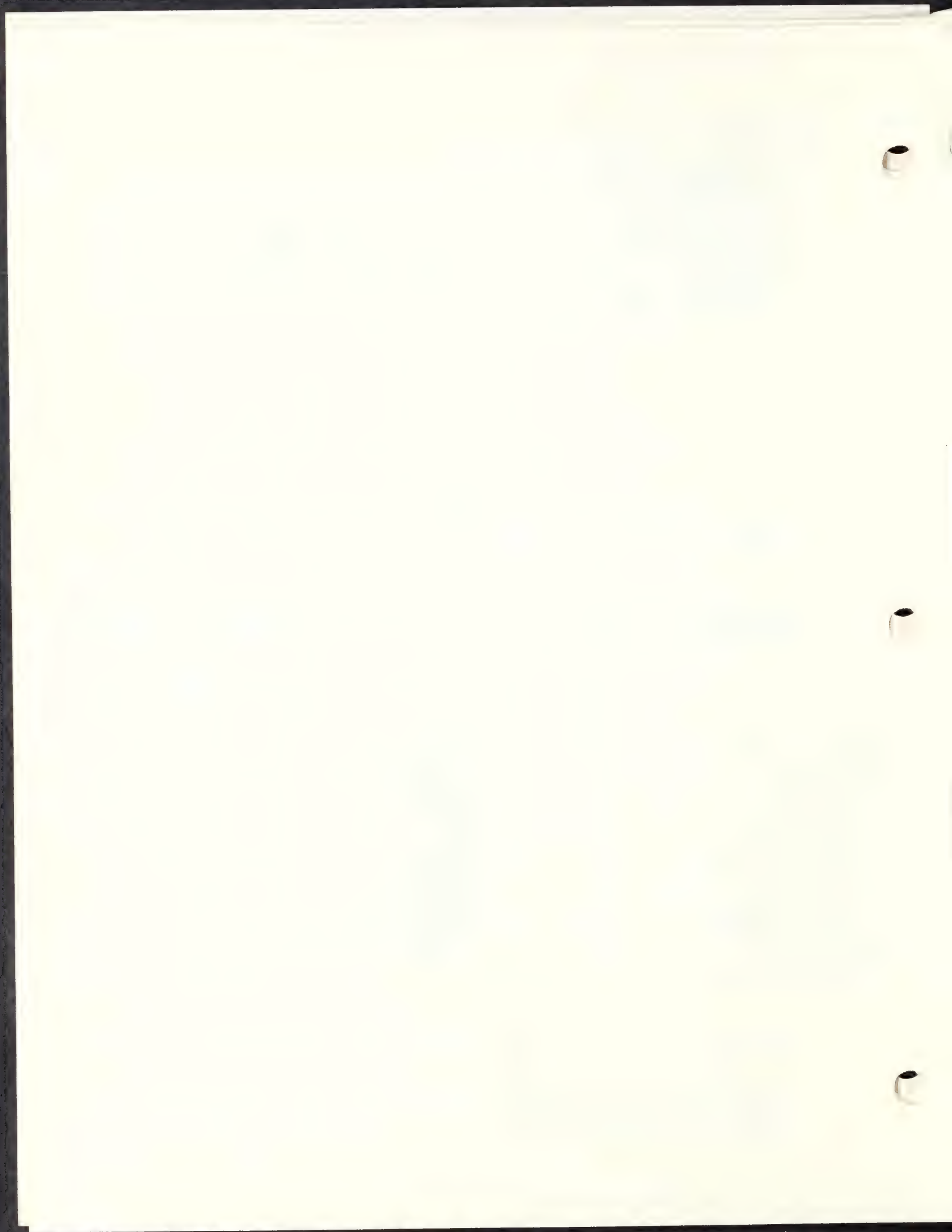
D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts		Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	_____	_____	Mineral Resources	_____	_____
Historical	_____	_____	Energy Use	_____	_____
Archaeological	_____	X	Water Supply & Use	_____	_____
Fisheries & Wildlife	_____	_____	Water Pollution	X	Y
Vegetation, Trees	_____	_____	Air Pollution	_____	_____
Other Biological Systems	_____	_____	Noise	X	_____
Inland Wetlands	X	X	Traffic	Y	_____
Coastal Wetlands or Beaches	_____	_____	Solid Waste	_____	_____
Flood Hazard Areas	_____	_____	Aesthetics	_____	_____
Chemicals, Hazardous Substances, High Risk Operations	_____	_____	Wind and Shadow	_____	_____
Geologically Unstable Areas	_____	_____	Growth Impacts	_____	_____
Agricultural Land	_____	_____	Community/Housing and the Built Environment	_____	_____
Other (Specify)	_____	_____		_____	_____

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

The proposed project is considered the only feasible alternative that will accommodate the existing and projected increase in traffic volumes in this segment of the turnpike.



E. Has this project been filed with EOE before? Yes _____ No X
If Yes, EOE No. _____ EOE Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name

Type of Permit

None known; however, the following may be required:

U.S. Army Corps of Engineers
Mass. DEQE

Sec. 10/404
Water Quality Certificate

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
Yes X No _____

DEQE File No., if applicable: _____

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name

Funding Amount

None

II. PROJECT DESCRIPTION

A. Include an original 8½ x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: approx. 100 acres

Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed	<u>97</u> acres	4. Floodplain	<u>2.6</u> acres
2. Open Space/Woodlands/Recreation	_____ acres	5. Coastal Area	_____ acres
3. Wetlands	<u>0.4</u> acres	6. Productive Resources	
		Agriculture	_____ acres
		Forestry	_____ acres
		Mineral Products	_____ acres

C. Provide the following dimensions, if applicable:

Length in miles 4.4

Number of Housing Units _____

Number of Stories _____

Existing

Immediate Increase Due to Project

Number of Parking Spaces

Vehicle Trips to Project Site (average daily traffic)

Estimated Vehicle Trips past project site

85,000 vpd

0

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection.

III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

The area where construction is proposed is not considered an open space or recreation area. The proposed project will not affect the condition, use or access to any open space or recreation area.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

There are no properties of historic significance in the vicinity of the project which would be affected by the proposed activities.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

The Mass. Historic Commission inventory includes one prehistoric archeological site in the vicinity of the project. The proposed work at this location does not extend outside the Turnpike's existing right-of-way. No disturbance of this site is anticipated.

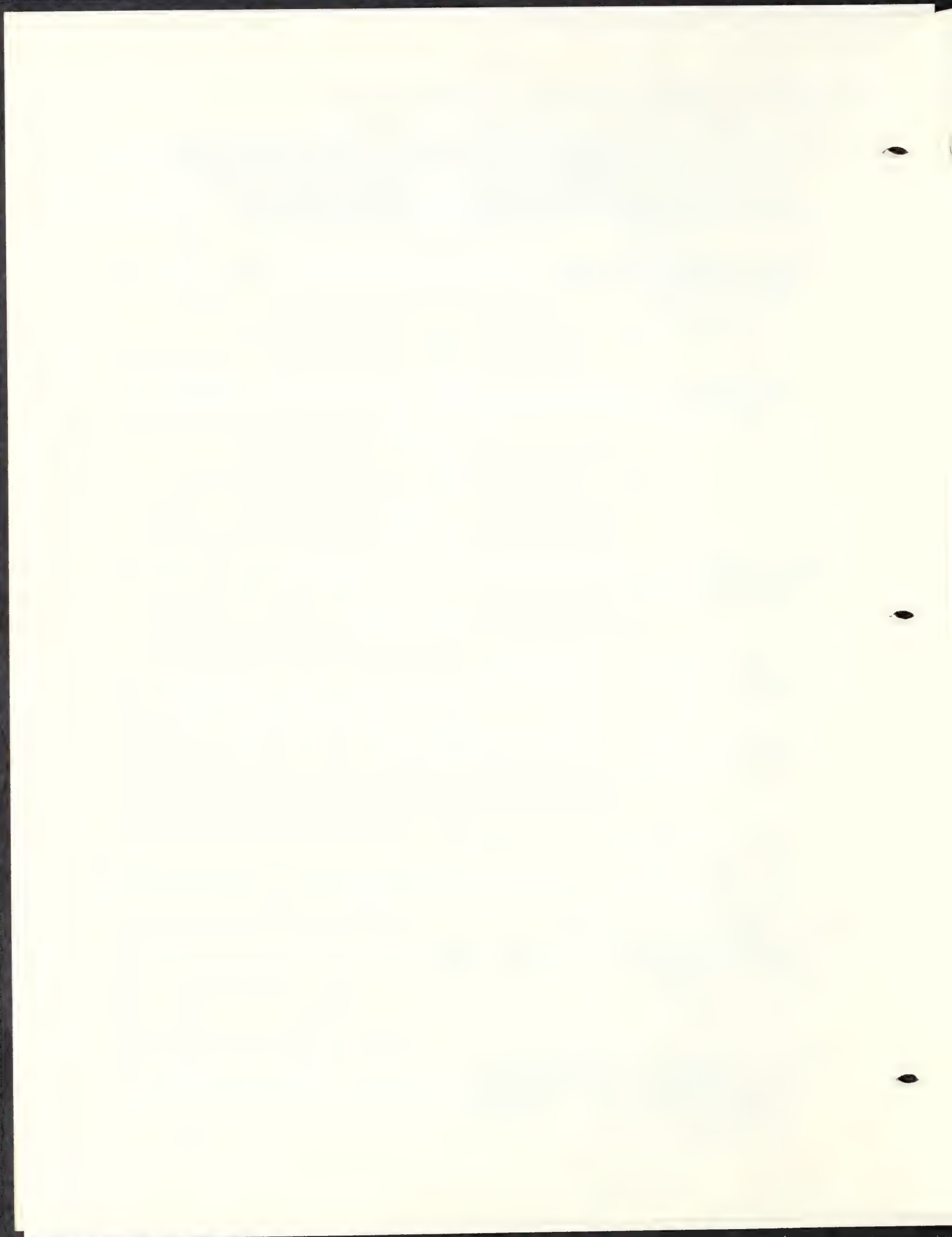
C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The proposed project is anticipated to have no significant impacts on wildlife or fisheries. Some habitat loss will occur, causing displacement of some wildlife species. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered species in the vicinity of the project area (Appendix A).



2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: _____)

Explanation and Source:

Field investigations indicated that the majority of the area which will be disturbed consists of the mowed Turnpike right-of-way. Some natural vegetation, typical of the region, will also be impacted. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered plant species or communities in the vicinity of the project area.

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes X No _____

Explanation and Source:

Field investigations indicate sixteen (16) wetland areas occur within the project limits. These include natural wetlands as well as vegetation in man-made ditches. Approximately 18,700 sq. ft. of vegetated wetlands, of which 1,660 sq. ft. are in man-made ditches, will be disturbed during project implementation. Appendix B provides a complete description of existing wetlands and potential impacts. Approximately 2.6 acres of land mapped by the Federal Emergency Management Agency as 100-year floodplain may be affected by the project. However, no impact on the flood storage capacity of the area will be associated with this project.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

The project will not affect shoreline erosion or accretion.

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The areas where construction is proposed are not considered geologically unstable.

D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

This project will not affect the transport of any hazardous substances which may currently be occurring on the Turnpike. The project does not involve the storage, release, use or disposal of potentially hazardous substances.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The land within the project area is not considered viable for agricultural or forestry production.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No
- X

Explanation and Source:

There are no known mineral or energy resources within the project area.

3. Might the operation of the project result in any increased consumption of energy? Yes _____ No
- X

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

The completed project will not result in any increased consumption of energy and will reduce energy use for vehicles using the facility due to more efficient traffic flow. As with any construction activity there will be energy consumption during the construction process.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No
- X

Explanation and Source:

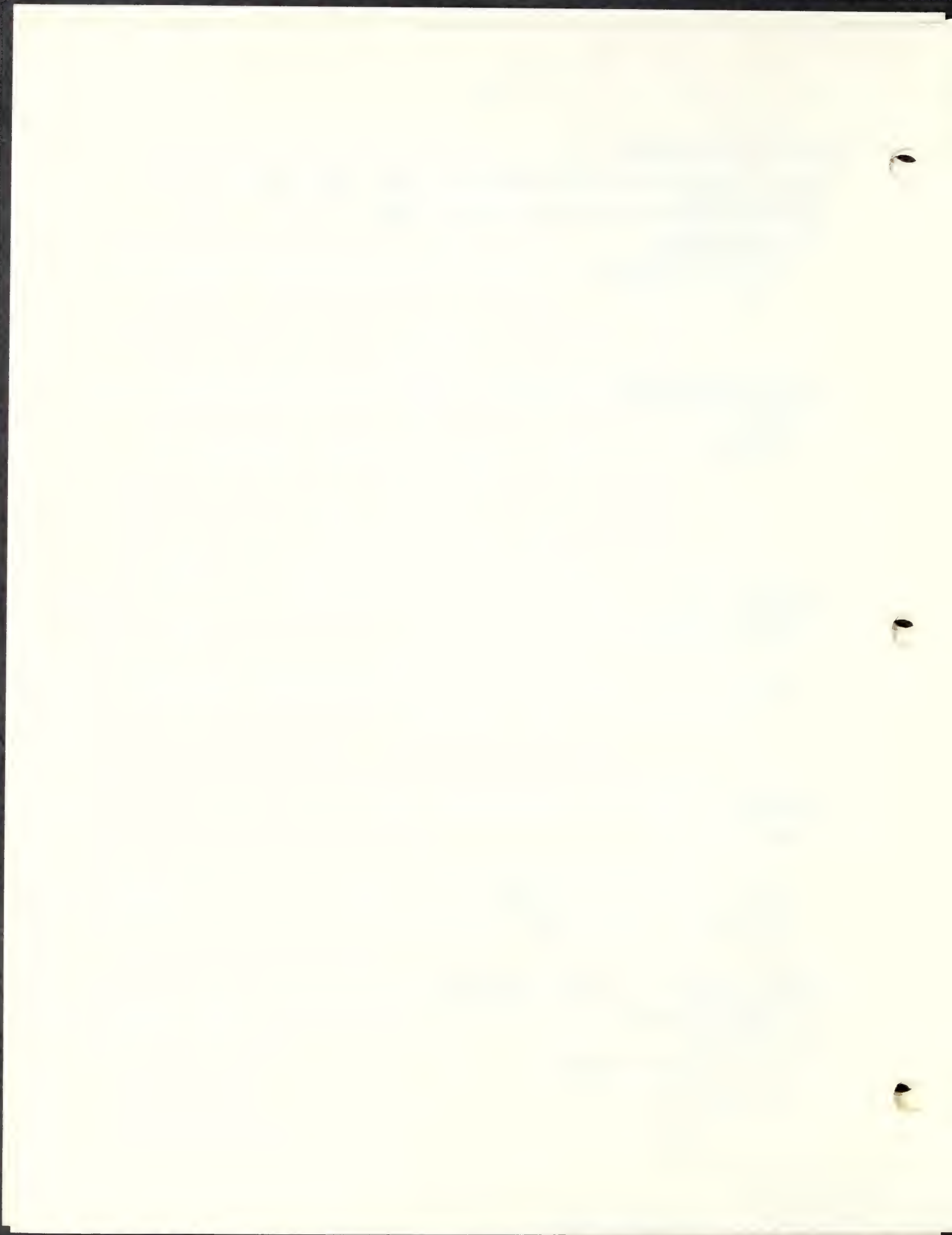
Existing man-made drainage systems will be altered to accommodate increased pavement runoff flows. In addition, the proposed roadway widening requires that several existing drainage ditches and culverts be relocated. The proposed project will not result in any significant changes to natural drainage systems.

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes <u>X</u>	No _____
(c) Ground Water	Yes _____	No <u>X</u>

Explain types and quantities of pollutants.

See Appendix C.



3. Will the project generate sanitary sewage? Yes _____ No X

If Yes, Quantity: _____ gallons per day

Disposal by: (a) Onsite septic systems Yes _____ No _____

(b) Public sewerage systems Yes _____ No _____

(c) Other means (describe) _____

Not applicable.

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes X No _____

Explanation and Source:

See Appendix C.

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes X No _____

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes X No _____

Explanation and Source:

See Appendix C

6. Might the operation of the project result in any increased consumption of water? Yes _____ No X

Approximate consumption _____ gallons per day. Likely water source(s) _____

Explanation and Source:

The project does not involve water consumption.

7. Does the project involve any dredging? Yes _____ No X

If Yes, indicate:

Quantity of material to be dredged _____

Quality of material to be dredged _____

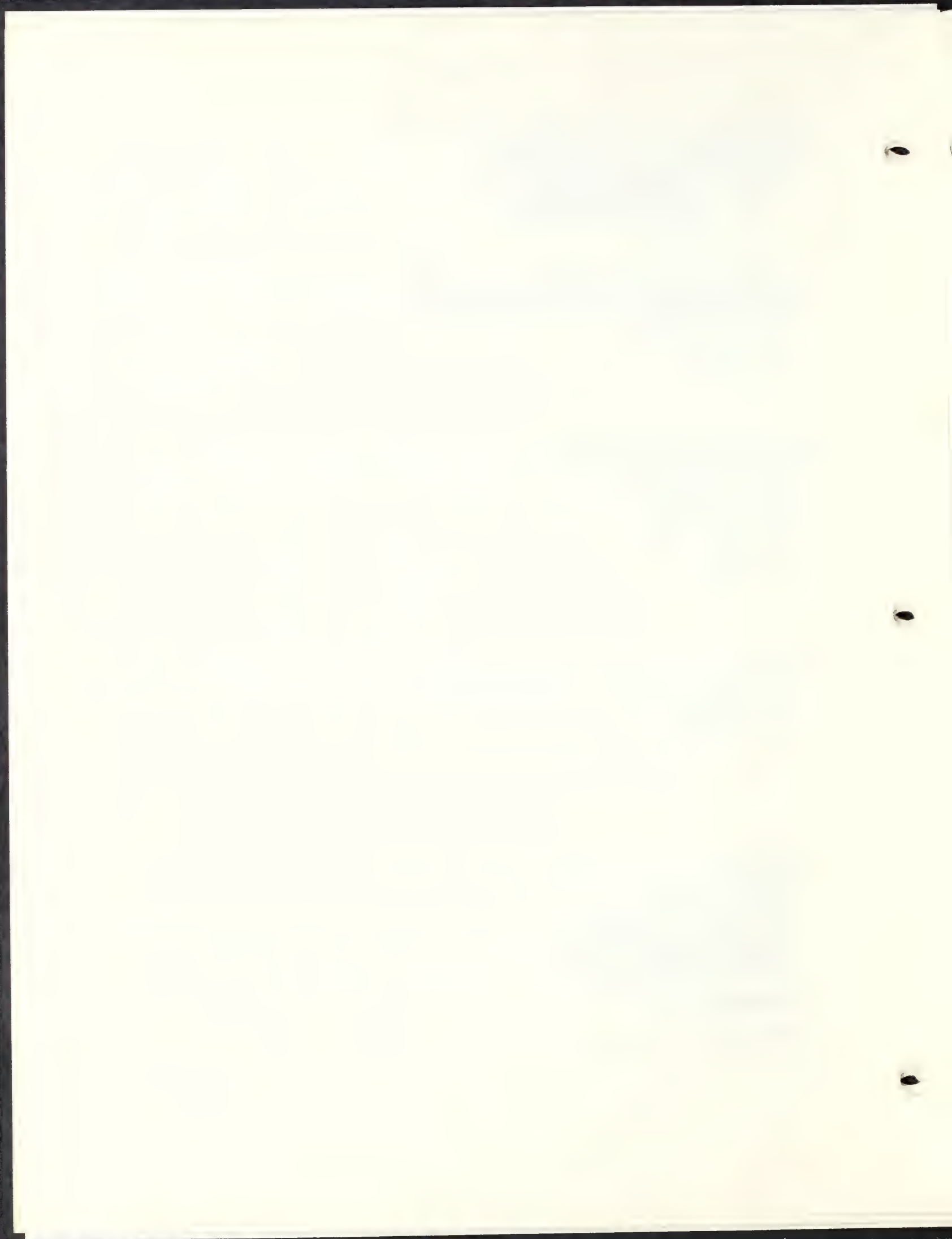
Proposed method of dredging _____

Proposed disposal sites _____

Proposed season of year for dredging _____

Explanation and Source:

The proposed project does not involve any dredging.



G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?

Yes ☒ No ☐

Describe type and source of any pollution emission from the project site. _____

The construction of the proposed project would have two major short-term effects: an increase in emissions caused by construction equipment and an increase in dust maintained in suspension by construction activity. Construction vehicles will emit carbon monoxide, hydrocarbons, oxides of nitrogen and particulates. Long-term ambient air concentrations will not be significantly altered by the operation of construction vehicles or by the traffic from the project, although any emissions associated with traffic congestion would be alleviated by improved traffic flow.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes
- ☒
- No
- ☐

Explanation and Source:

Approximately 54 residences north of the turnpike and 26 residences and two churches south of the turnpike would be affected by short-term construction activities, but not by long-term air quality levels caused by the project. The increased dust (particulate) levels will be the largest component of the short-term impacts and of the greatest annoyance to nearby residents. Dust emissions will vary depending on the level of activity, type of operations and weather conditions. The most common dust control techniques include watering, chemical stabilization and vehicle speed reduction.

3. Will access to the project area be primarily by automobile? Yes
- ☒
- No
- ☐

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

Not applicable to this highway project. No special provisions are planned for the construction activity.

H. Noise

1. Might the project result in the generation of noise? Yes
- ☒
- No
- ☐

Explanation and Source:

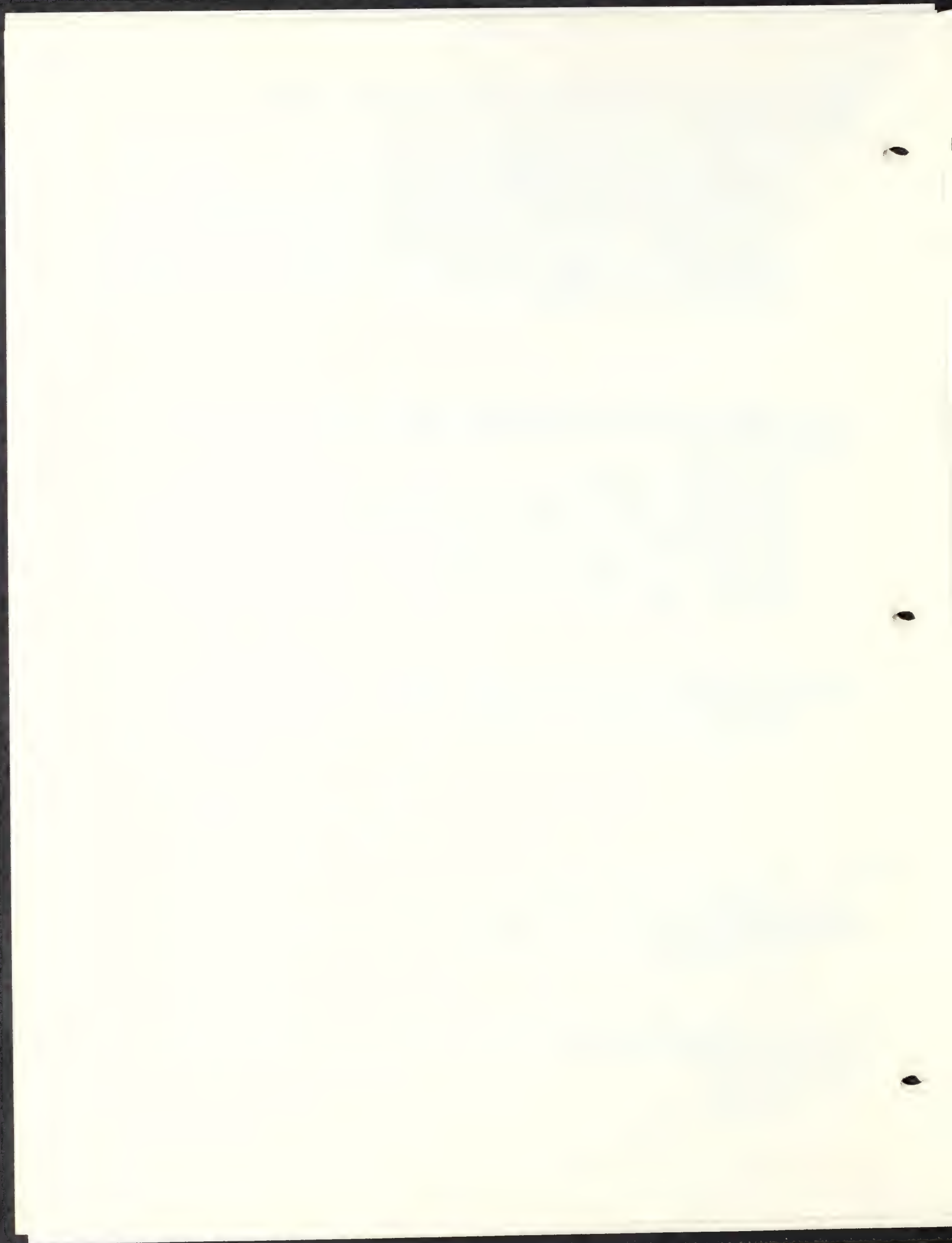
(Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

See Appendix D.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes
- ☒
- No
- ☐

Explanation and Source:

See Appendix D.



I. Solid Waste

1. Might the project generate solid waste? Yes
- ☒
- No
- ☐

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

The proposed roadway widening will generate a limited amount of solid waste in the form of construction debris. Existing bituminous concrete pavement, guard rail, highway lighting standards and other miscellaneous items will be removed and disposed of in a suitable landfill as a part of the project.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs?

Yes ☐ No ☒*Explanation and Source:*

The proposed pavement widening will be similar to the existing roadway section.

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use?

Yes ☐ No ☒*Explanation and Source:*

The proposed facilities will be compatible with those in the vicinity of the work.

3. Might the project impair visual access to waterfront or other scenic areas? Yes
- ☐
- No
- ☒

Explanation and Source:

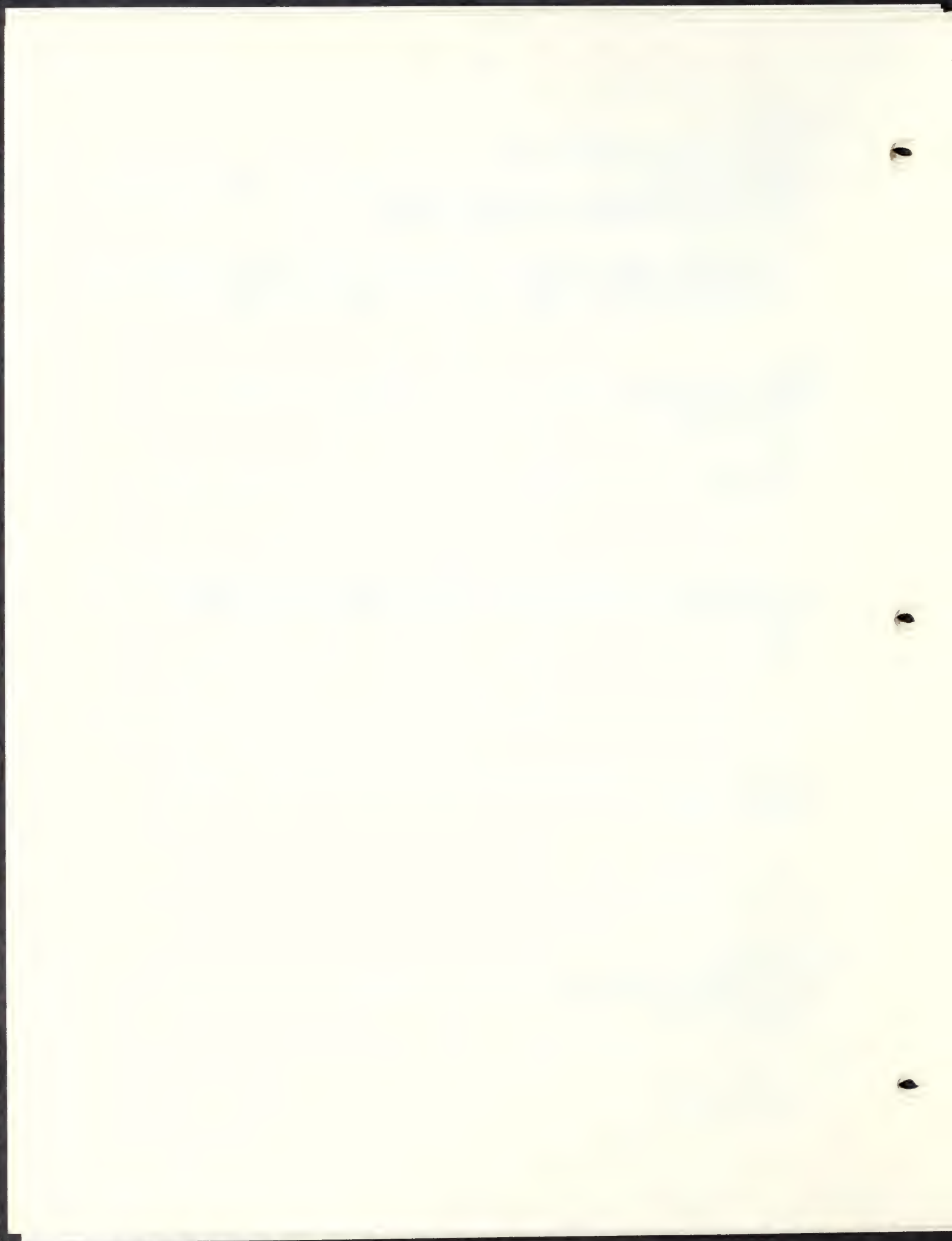
Not applicable.

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes
- ☐
- No
- ☒

Explanation and Source:

Not applicable.



IV. CONSISTENCY WITH PRESENT PLANNING

- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The proposed mainline widening is being done in accordance with the Turnpike Authority's current plan to upgrade and modify the existing toll collection system and to widen and improve interchange ramps and a section of the Mainline. This program will significantly enhance traffic operations and safety on the Turnpike.

V. FINDINGS AND CERTIFICATION

- A. The notice of intent to file this form has been/will be published in the following newspaper(s):

(Name) <u>Boston Globe</u>	(Date) <u>week of July 7 (est.)</u>
<u>Middlesex News</u>	<u>week of July 7 (est.)</u>
<u>Wayland-Weston Town Crier</u>	<u>July 9 - July 17 (est.)</u>

- B. This form has been circulated to all agencies and persons as required by Appendix B.

June 23, 1986

Date


Signature of Responsible Officer
or Project Proponent

John N. Grim

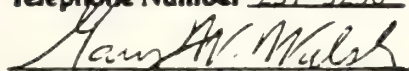
Name (print or type)

Address Mass. Turnpike Authority
668 South Ave., Weston, MA 02193

Telephone Number 237-3250

June 23, 1986

Date

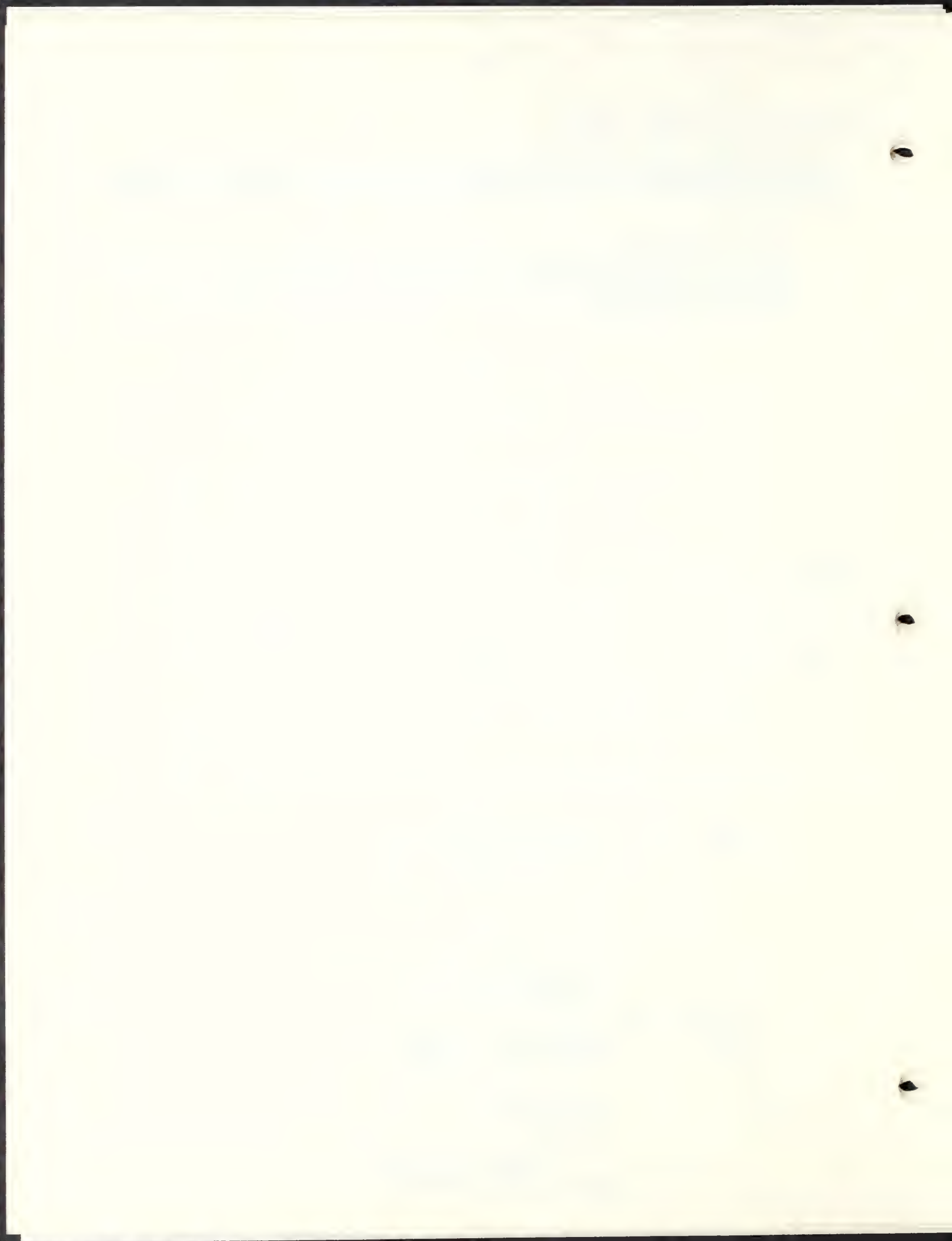

Signature of person preparing
ENF (if different from above)

Gary W. Walsh

Name (print or type)

Address HNTB, Suite 4200 Prudential Center
Boston, MA 02199

Telephone Number 267-6710



Appendix A



Massachusetts
Natural Heritage
Program

April 16, 1986

Ms. Amy Hogeland
Jason Cortell & Assoc.
144 Second Ave.
Waltham, MA 02154

RE: Massachusetts Turnpike Improvements

Dear Ms. Hogeland,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant communities in the vicinity of the proposed improvements to the Massachusetts Turnpike, as referenced in your letter of April 11, 1986.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities which would be affected by this project.

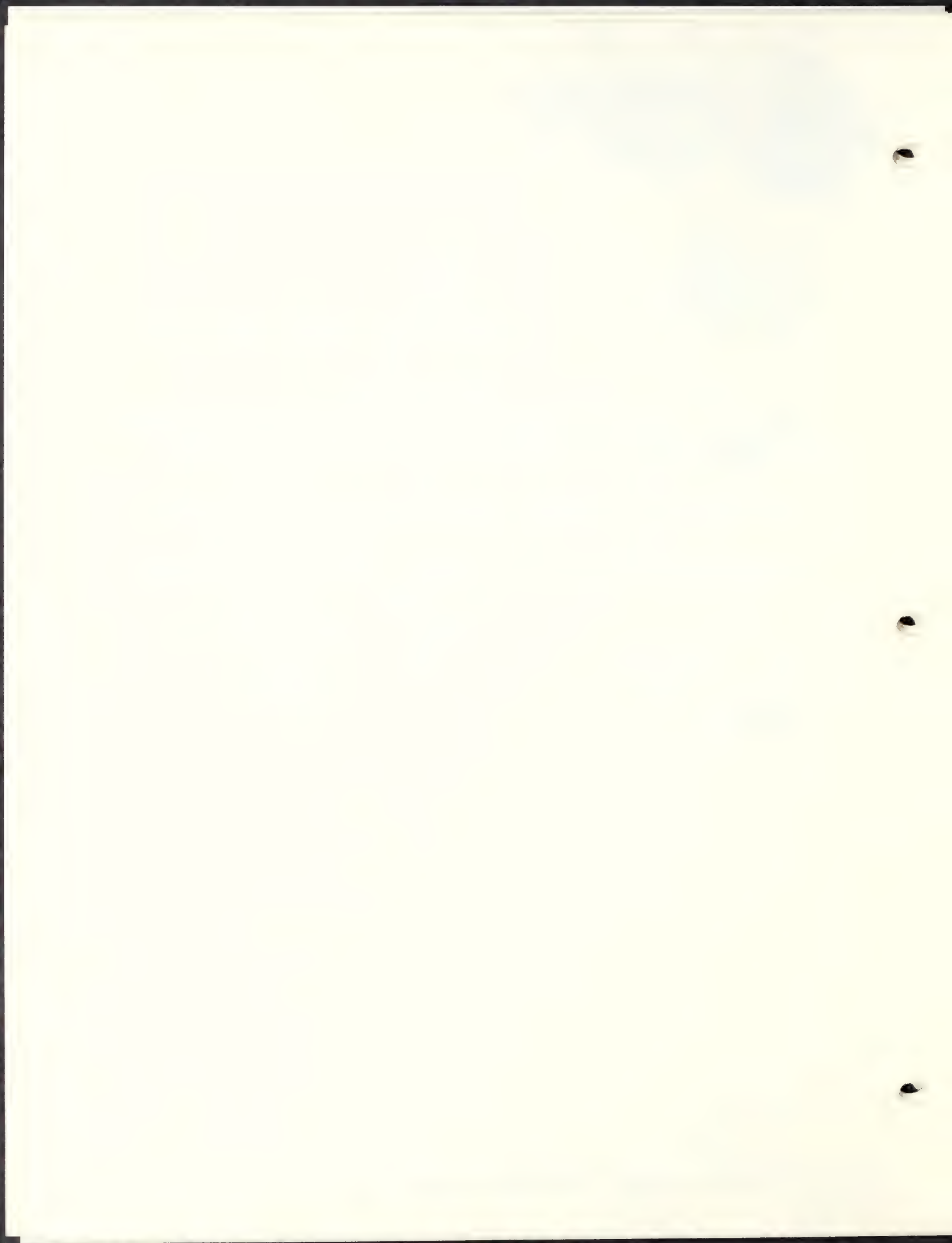
As you know, our inventory is ongoing, so more data on this area may become available in the future.

Sincerely,

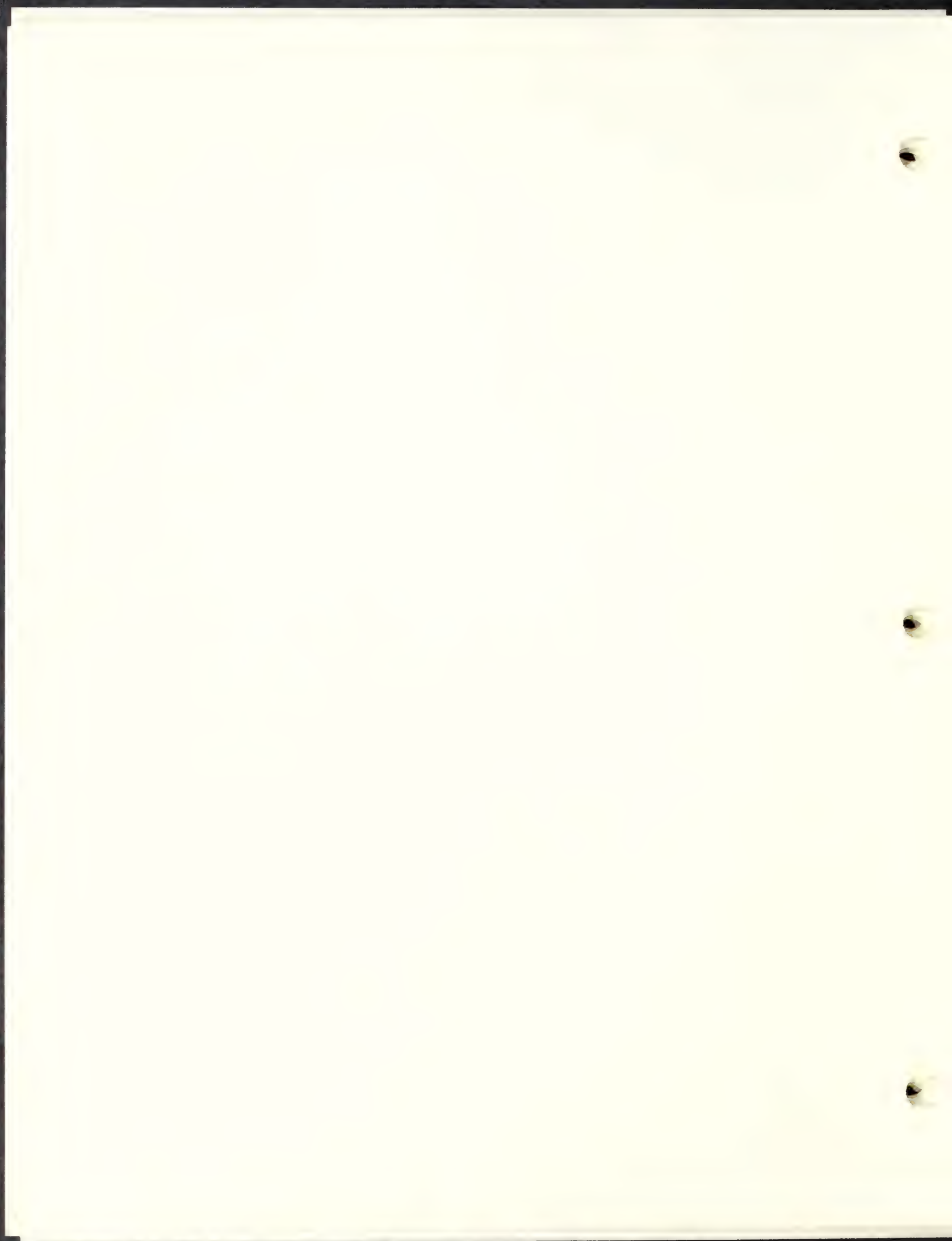
Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm



Appendix B

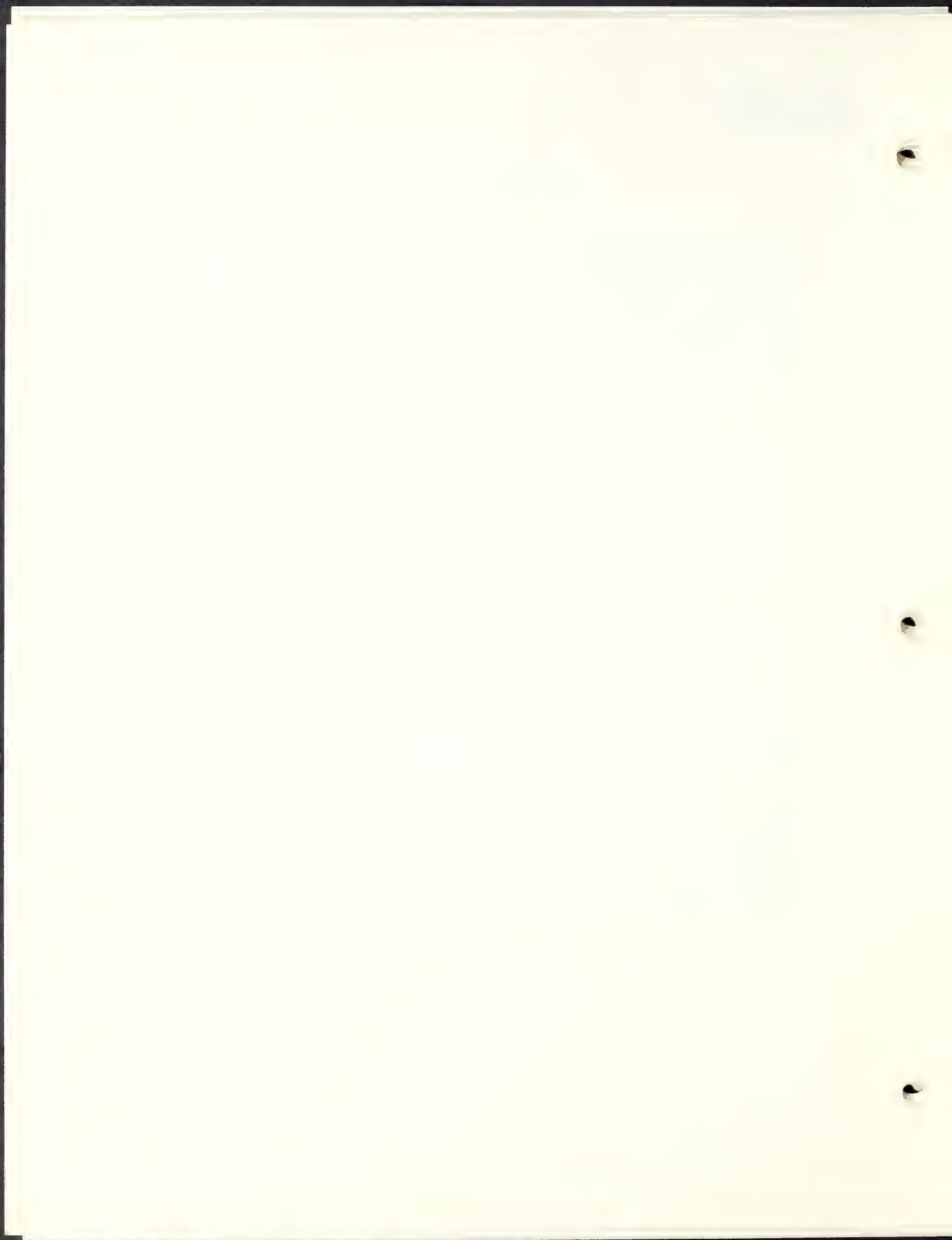


MAINLINE WIDENING
APPENDIX B - WETLANDS

Prior to evaluating wetland impacts, field investigations were conducted to identify wetland resources within the project limits. Wetland boundaries were approximately located in the field by measuring distances from established points of reference such as existing pavement, bridges, culverts, etc. These wetlands boundaries were then transferred onto 1"=1000' maps (Figure 3) and 1"=50' maps (selected 50-scale maps follow this text).

The results of these field investigations indicate sixteen (16) wetland resource areas in the vicinity of the proposed activities. Portions of Wetlands 3, 4, 7, and 8 and all of Wetlands 9, 10, 11, and 12 are wetlands occurring in man-made drainage ditches along the Turnpike. The majority of the wetlands occur at or near the existing Turnpike toe-of-slope. Wetlands 1 and 16, however, are located 50'-100' off the toe-of-slope, outside the Turnpike right-of-way.

Community types include forested, scrub/shrub, and emergent wetlands as well as open water of ponds and streams. Species composition of these wetlands are typical. Forested wetlands are dominated by red maple (Acer rubrum), with highbush blueberry (Vaccinium corymbosum), spice bush (Lindera alnifolia), and sweet pepperbush (Clethra alnifolia) comprising the understory. The scrub/shrub wetlands are typically dominated by sweet pepperbush, red maple, and dogwoods (Cornus spp.) The emergent wetlands are dominated by various species including cattail (Typha latifolia), reed grass (Phragmites australis), purple loosestrife (Lythrum salicaria), soft rush (Juncus effusus), and sedges (Carex spp.). Photographs of wetlands 2, 5, 6, 8, 13, 14, and 15 are presented in Figure 4. These wetlands represent typical wetland impact areas.



The proposed activities associated with the Mainline widening will impact fourteen of the sixteen wetlands in the project area. Impacts at eight of these wetlands will occur in the emergent wetlands situated in the drainage swales located along the Turnpike. Approximately 18,700 sq. ft. of bordering vegetated wetland, of which 1,600 sq. ft. or 8.5%, occur in man-made ditches, will be disturbed. These impacts have been limited to the greatest extent possible by design special slope treatment at the wetlands. Secondary impacts will be mitigated by implementing standard sediment and erosion control measures.

Table I summarizes these impacts and the wetland community types in which they will occur.

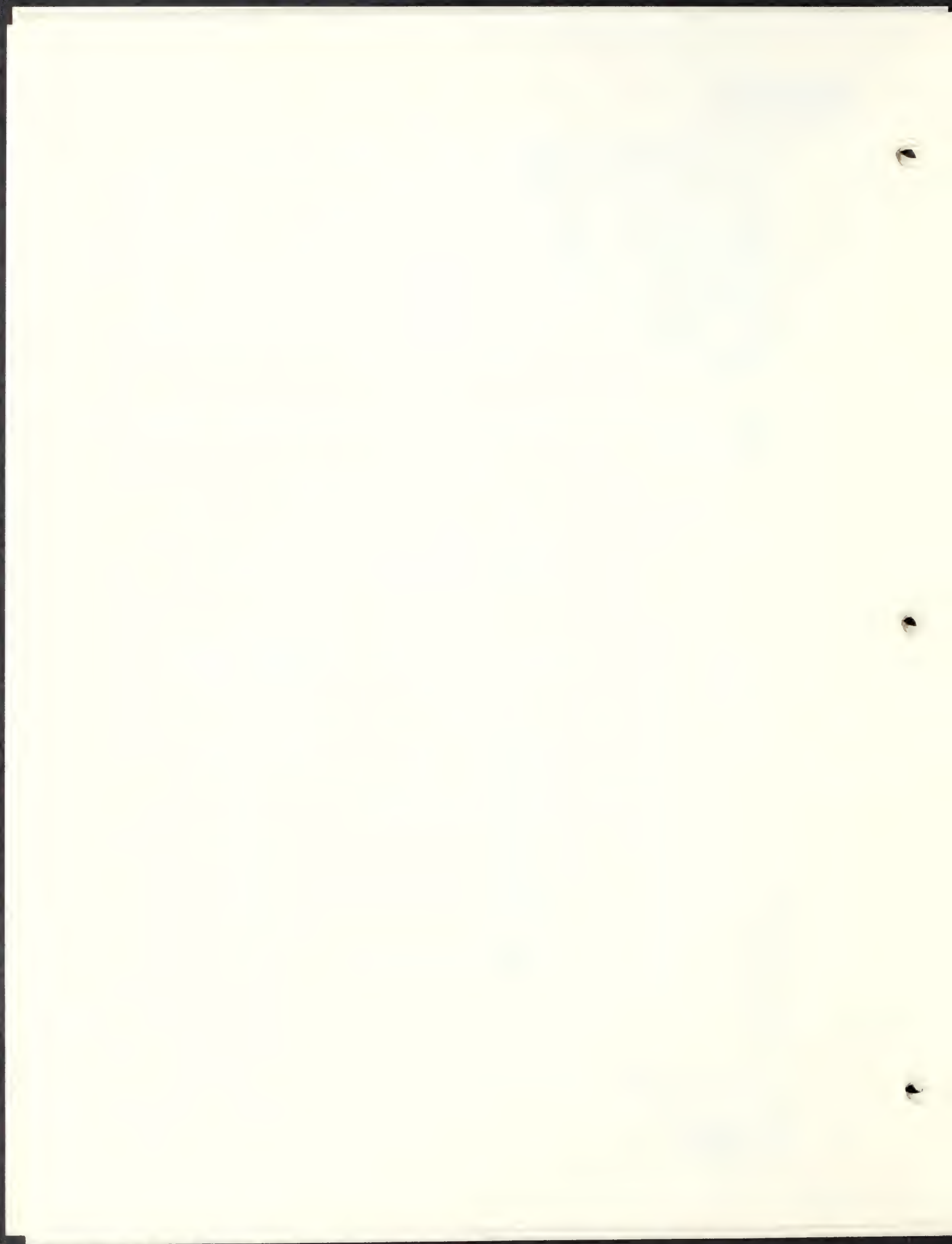
Table I

**WETLAND IMPACTS
MAINLINE WIDENING**

Wetland	Town	Community Type Disturbed	Bordering Vegetated Wetland Disturbed (square feet)
1	WA & NA	-	-
2	MA	scrub/shrub	200
3	WA	emergent	120*
4	WA	emergent	36*
5	WA & NA	emergent & scrub/shrub	11,750
6	NA	emergent & open water	10
7	NA	emergent	150*
8	WE	emergent	48*
9	WE	emergent	100*
10	WE	emergent	100*
11	WE	emergent	100*
12	WE	emergent	960*
13	WE	forested	—
14	WE	emergent & scrub/shrub	3,735
15	WE	scrub/shrub	1,375
16	WE	-	-
Total			18,684

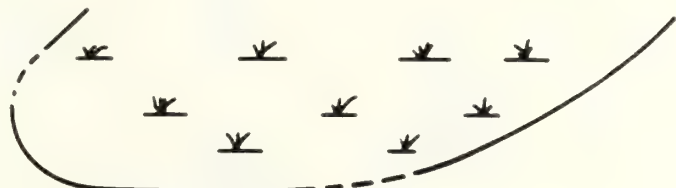
* Indicates wetland in man-made ditch.

WA = Wayland
NA = Natick
WE = Weston





WETLAND *1



PROP. TOE OF SLOPE

EXISTING TOE OF SLOPE

EXIST. EDGE OF PVMT.

789

790

791

792

EXIST. EDGE OF PVMT.

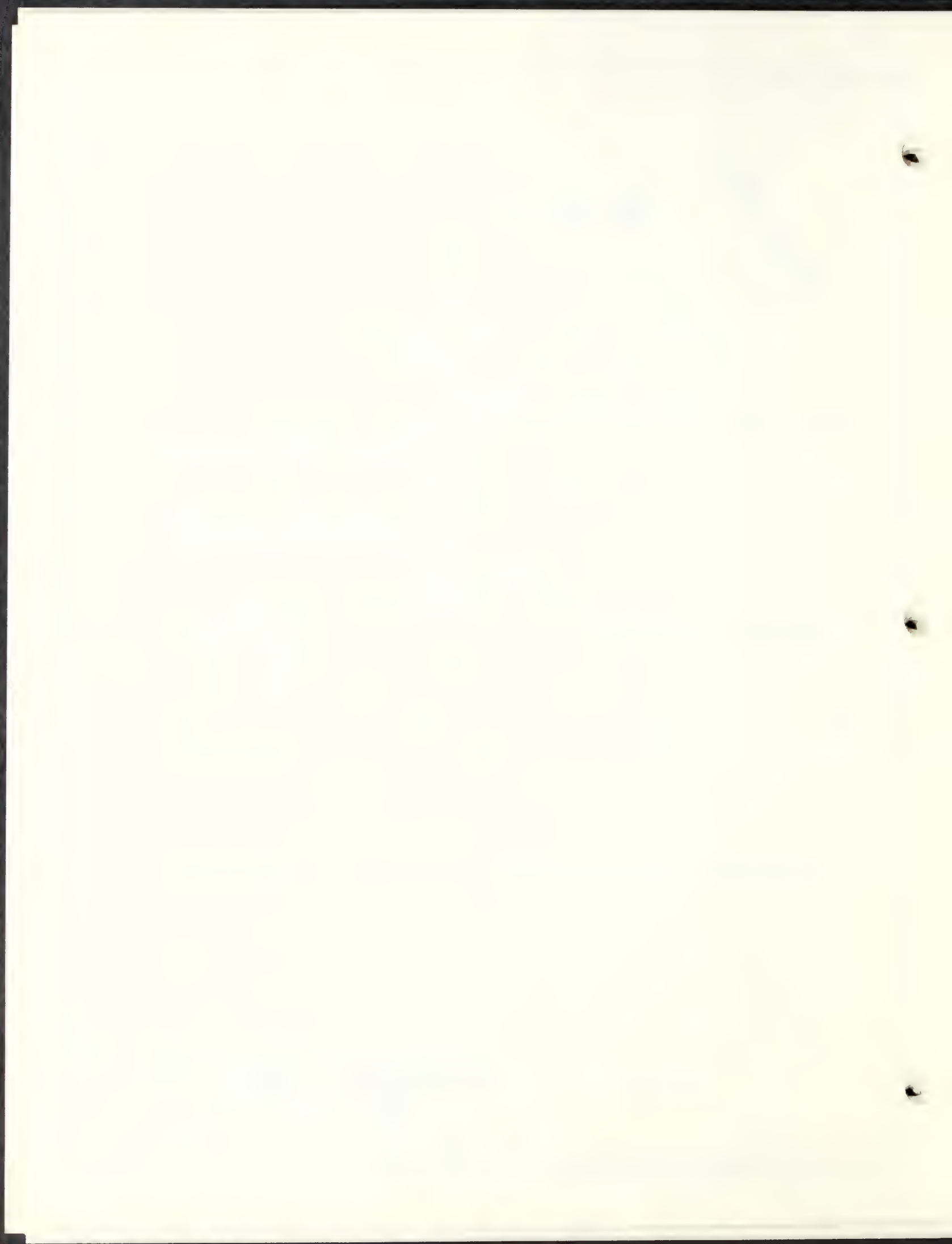
MASSACHUSETTS TURNPIKE AUTHORITY

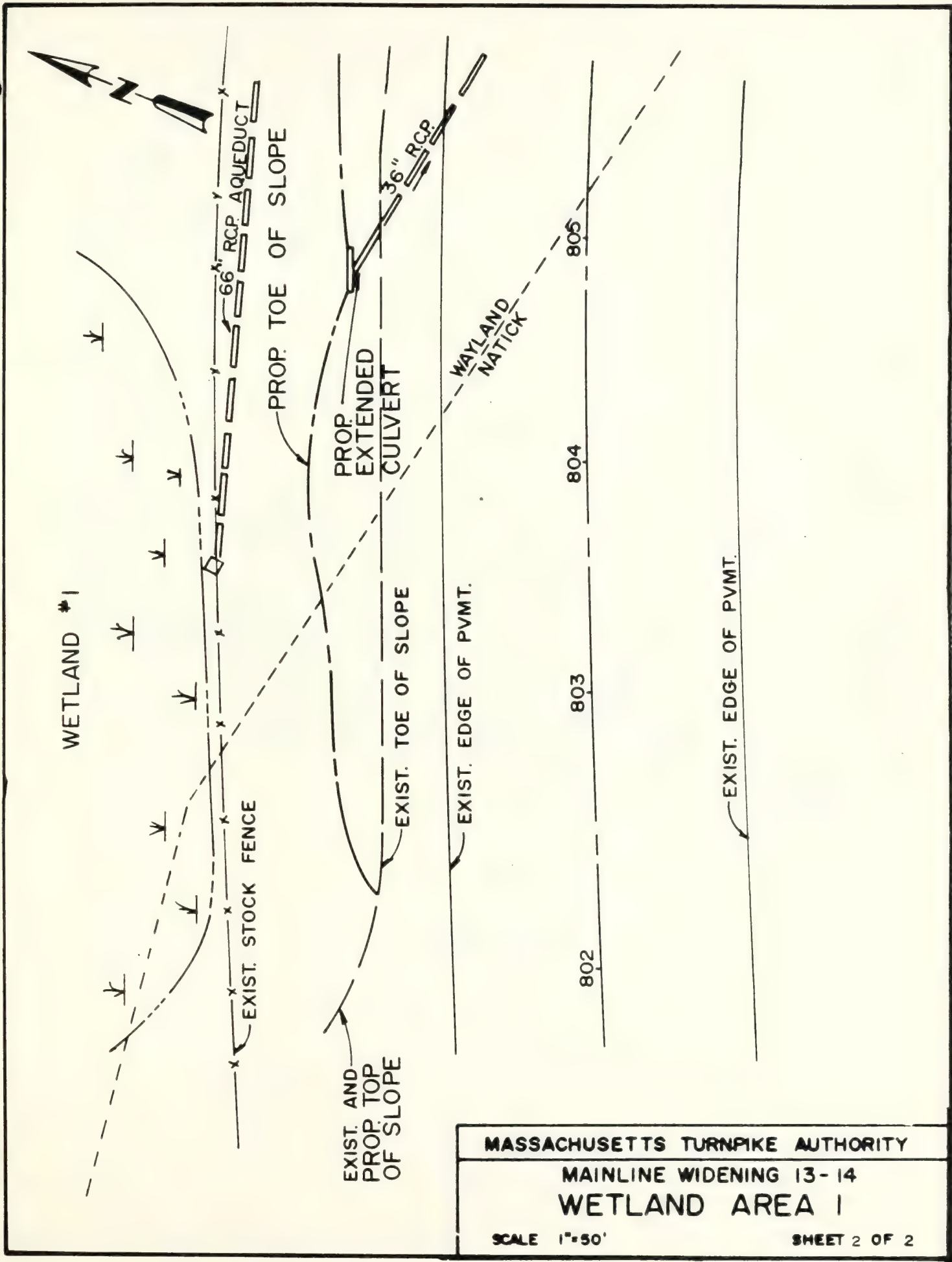
MAINLINE WIDENING 13-14

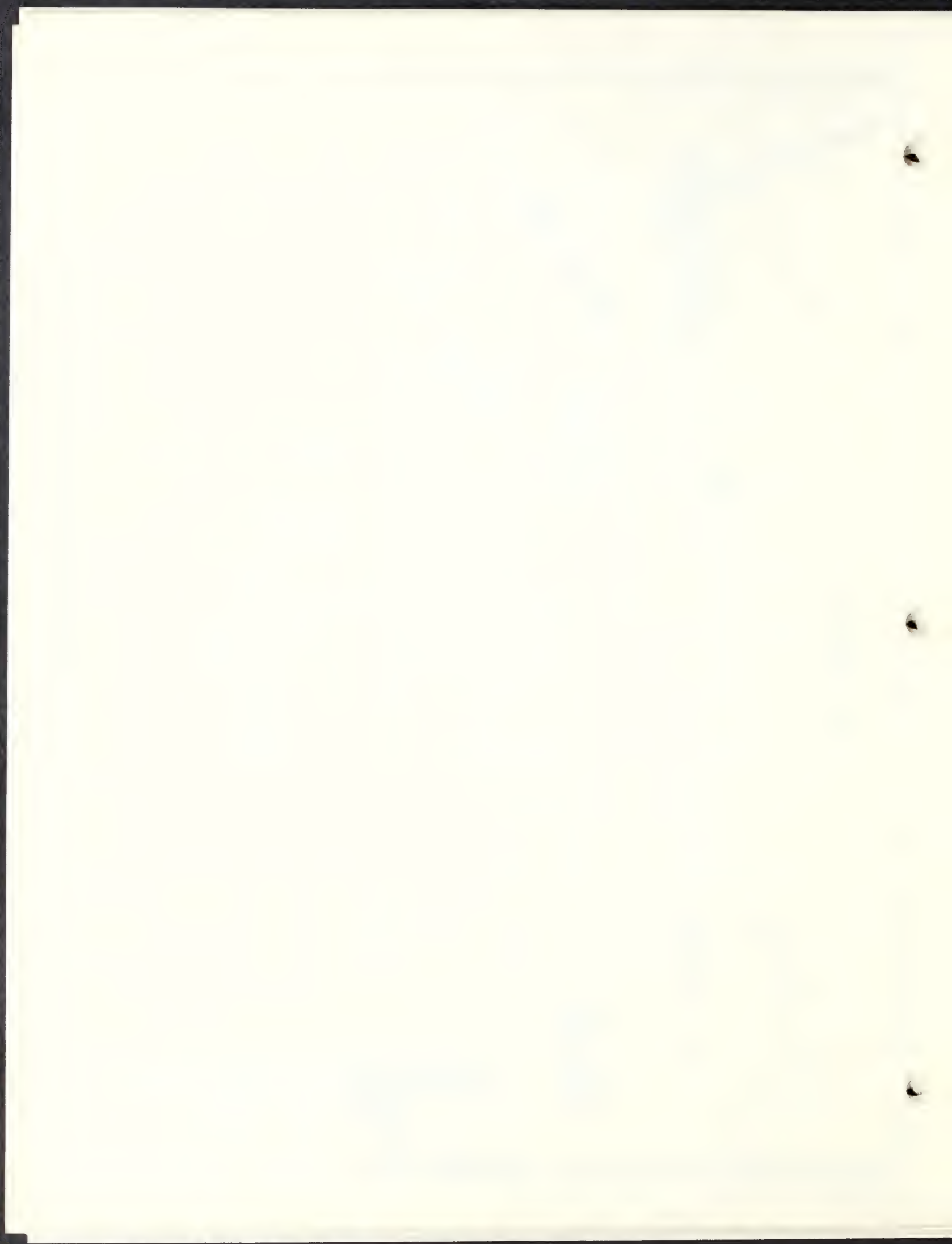
WETLAND AREA 1

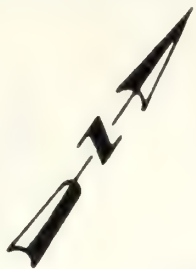
SCALE 1"=50'

SHEET 1 OF 2









EXIST. EDGE OF PVMT.

795

796

797

798

EXIST. EDGE OF PVMT.

EXISTING TOE OF SLOPE

PROP. TOE OF SLOPE

PROPOSED
EXTENDED
CULVERT

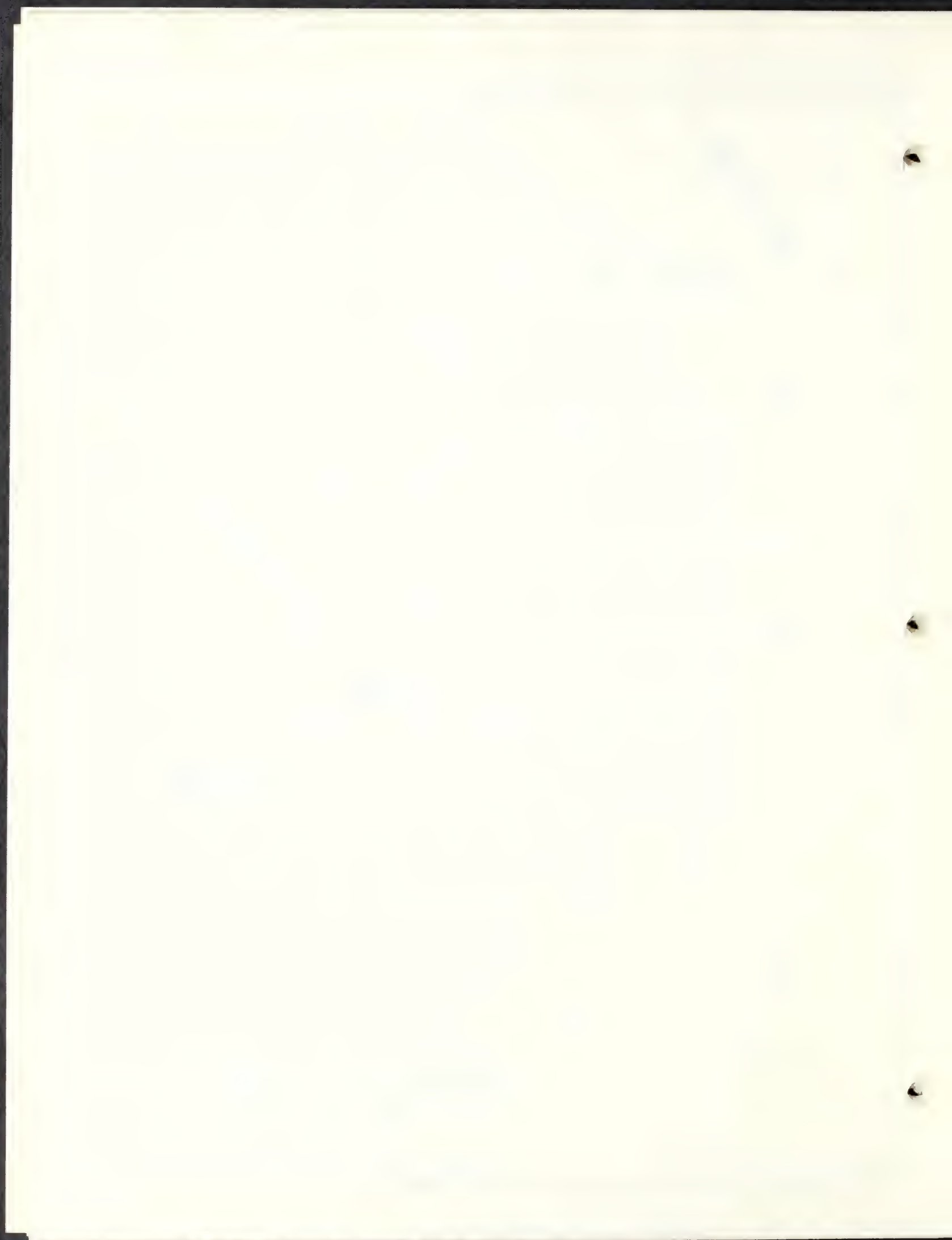
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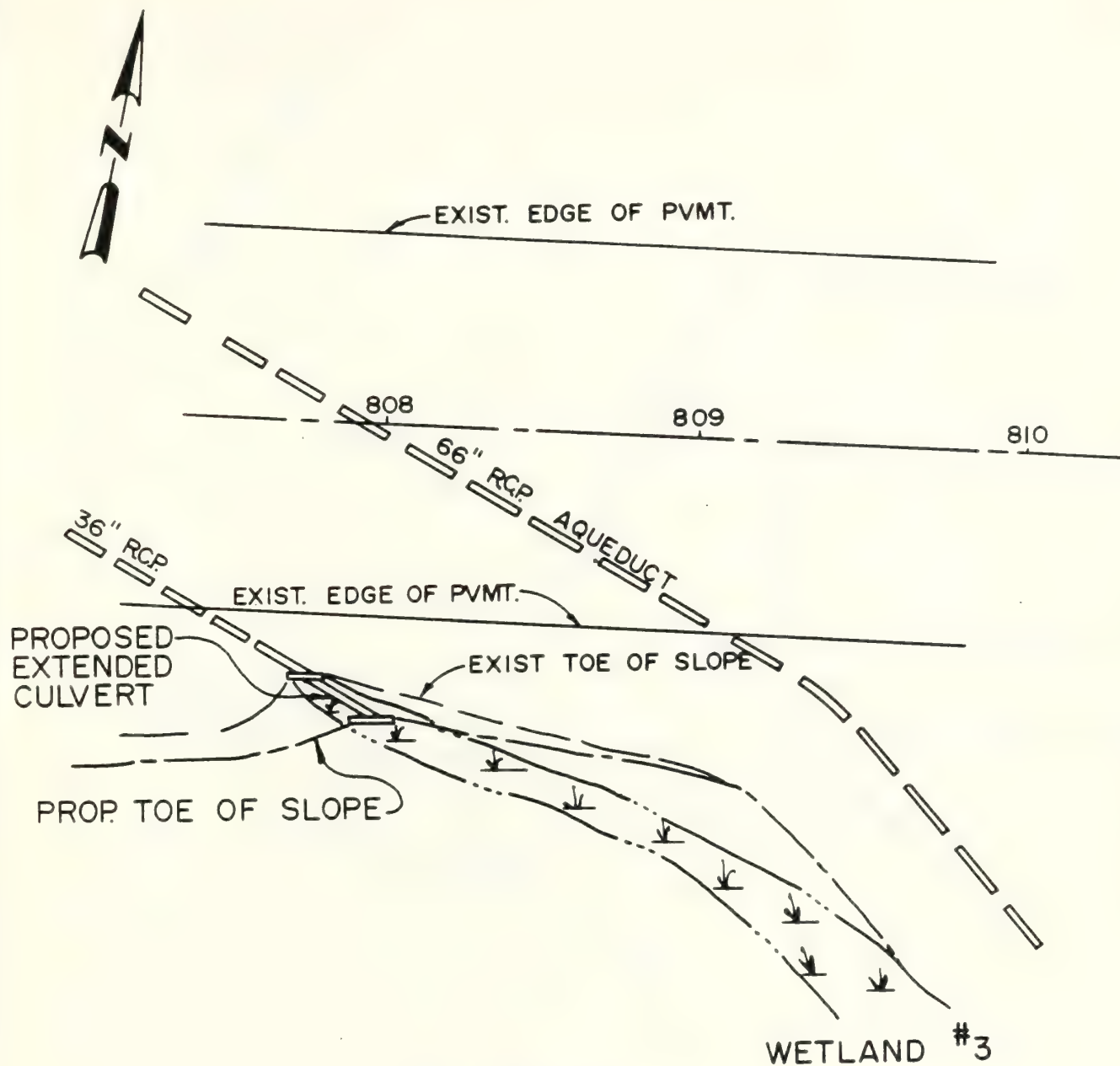
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 2

SCALE 1"=50'

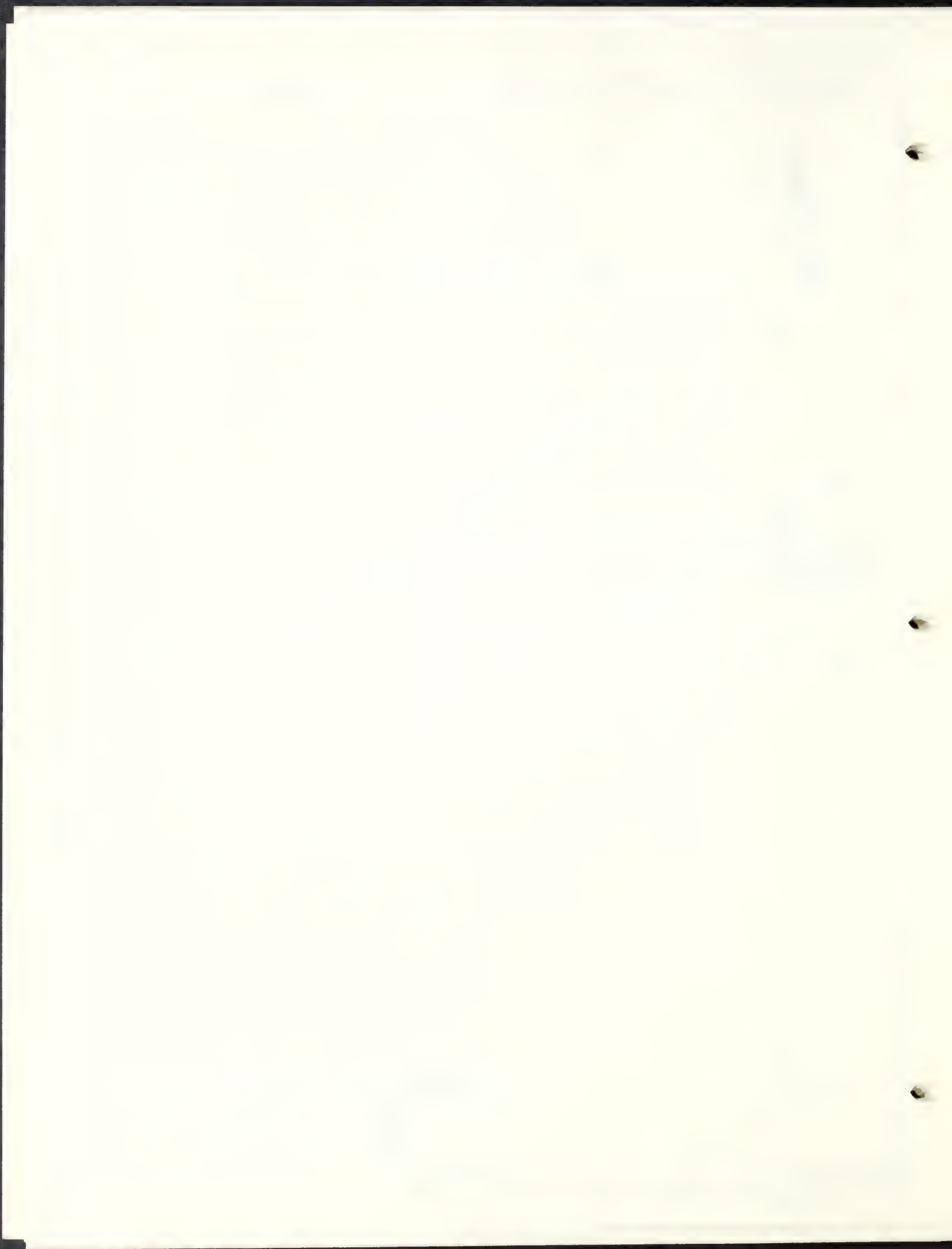


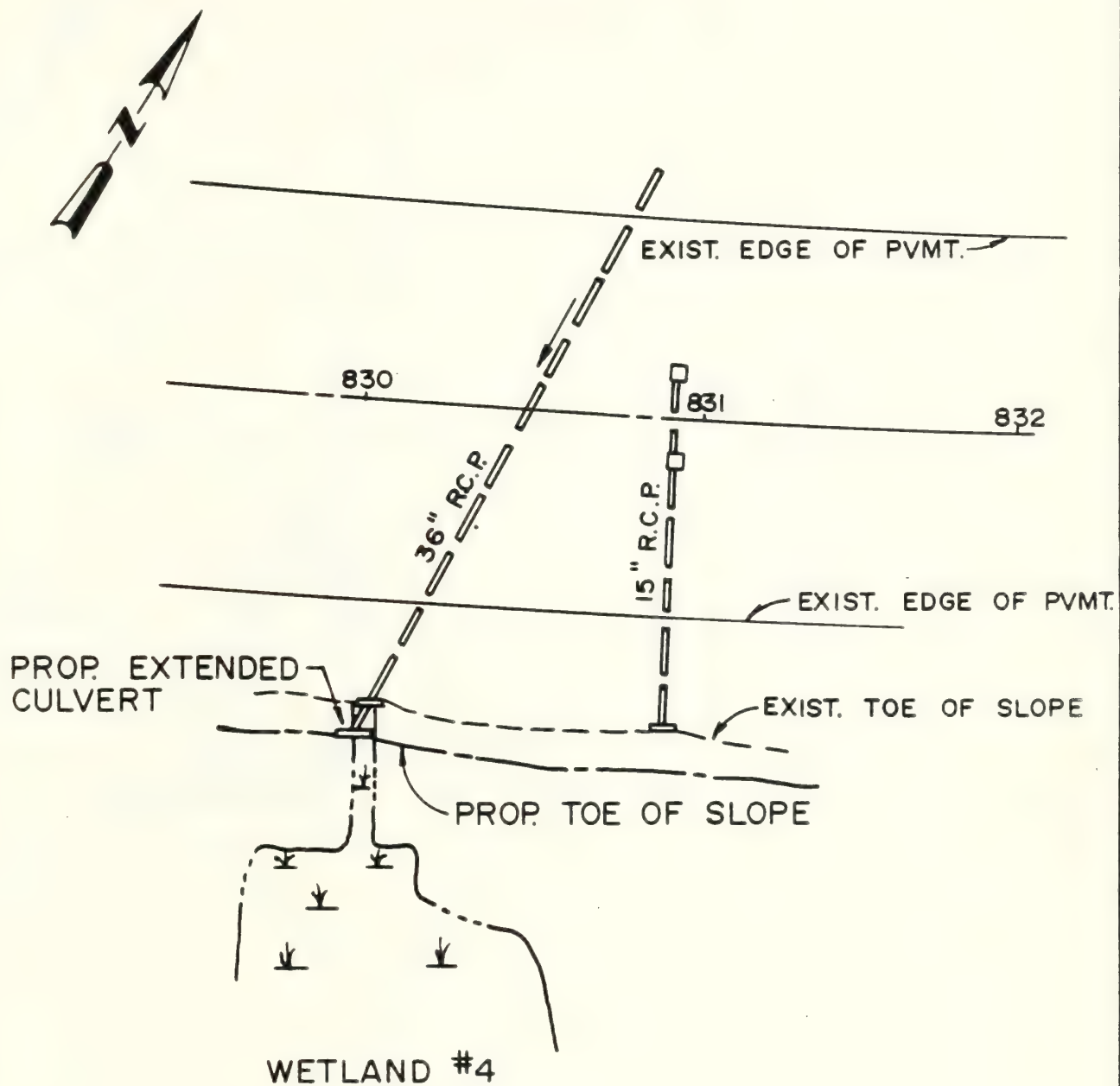


MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14
WETLAND AREA 3

SCALE 1"=50'



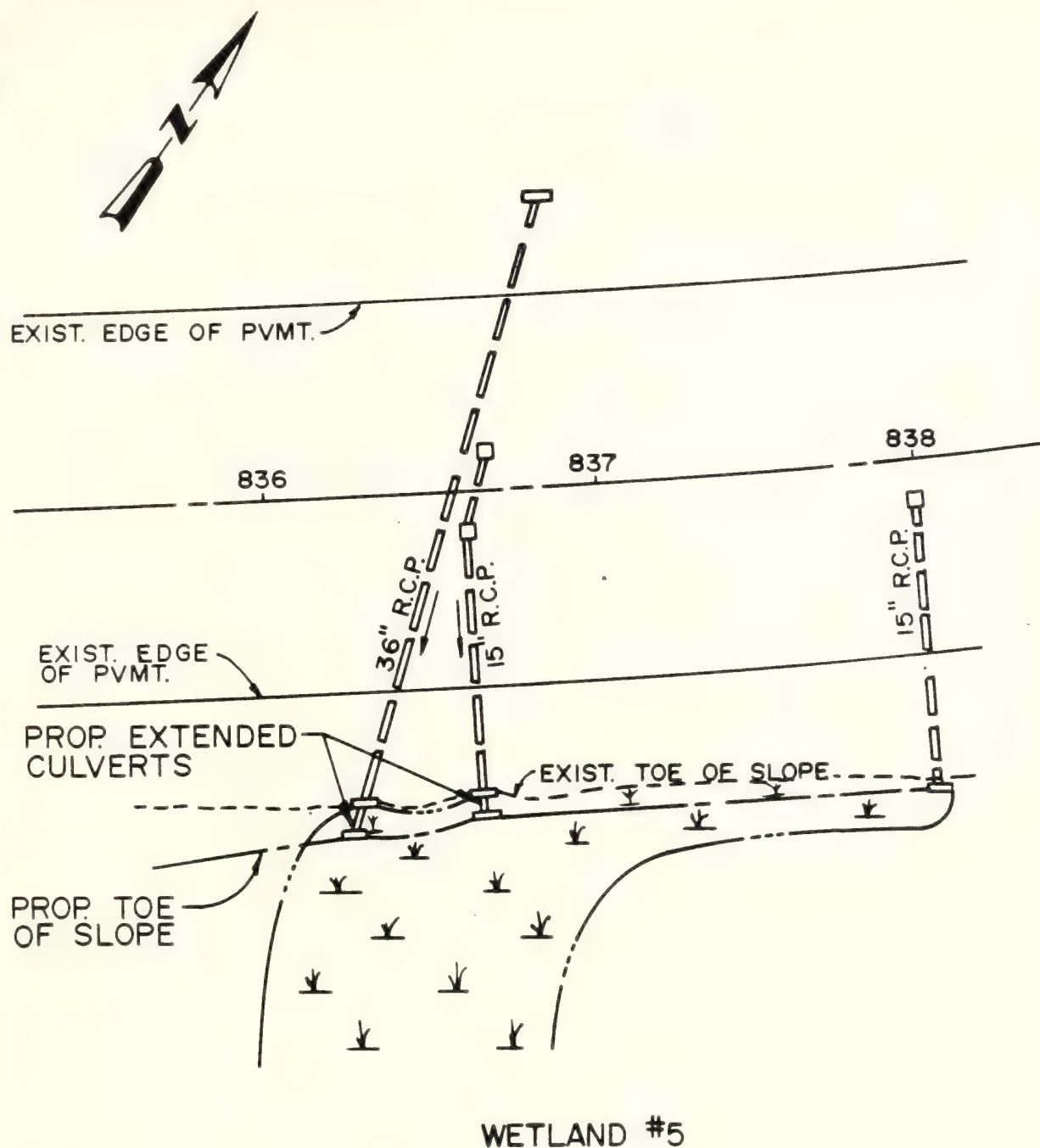


MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 4

SCALE 1"=50'



MASSACHUSETTS TURNPIKE AUTHORITY

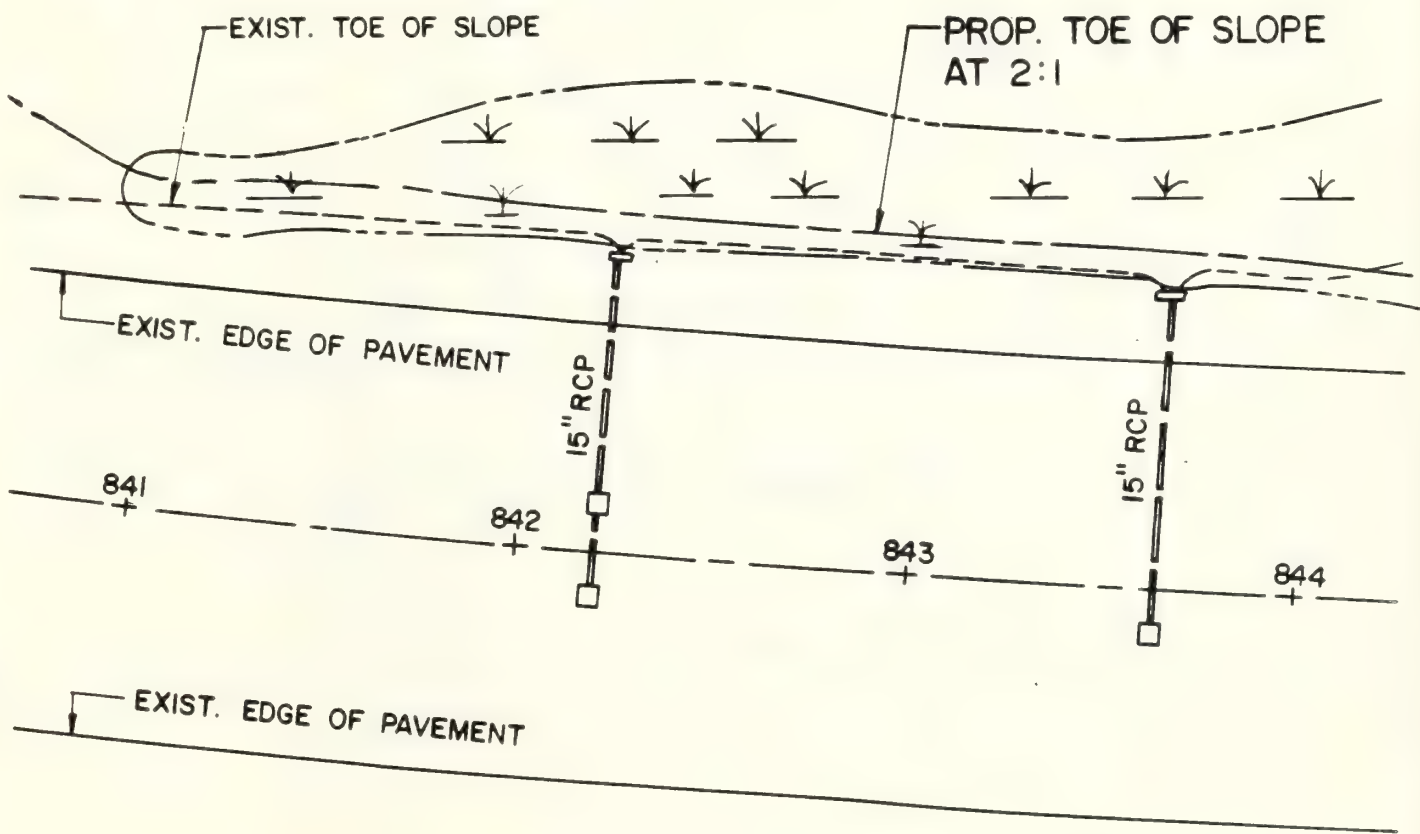
MAINLINE WIDENING 13-14
WETLAND AREA 5

SCALE 1"=50'

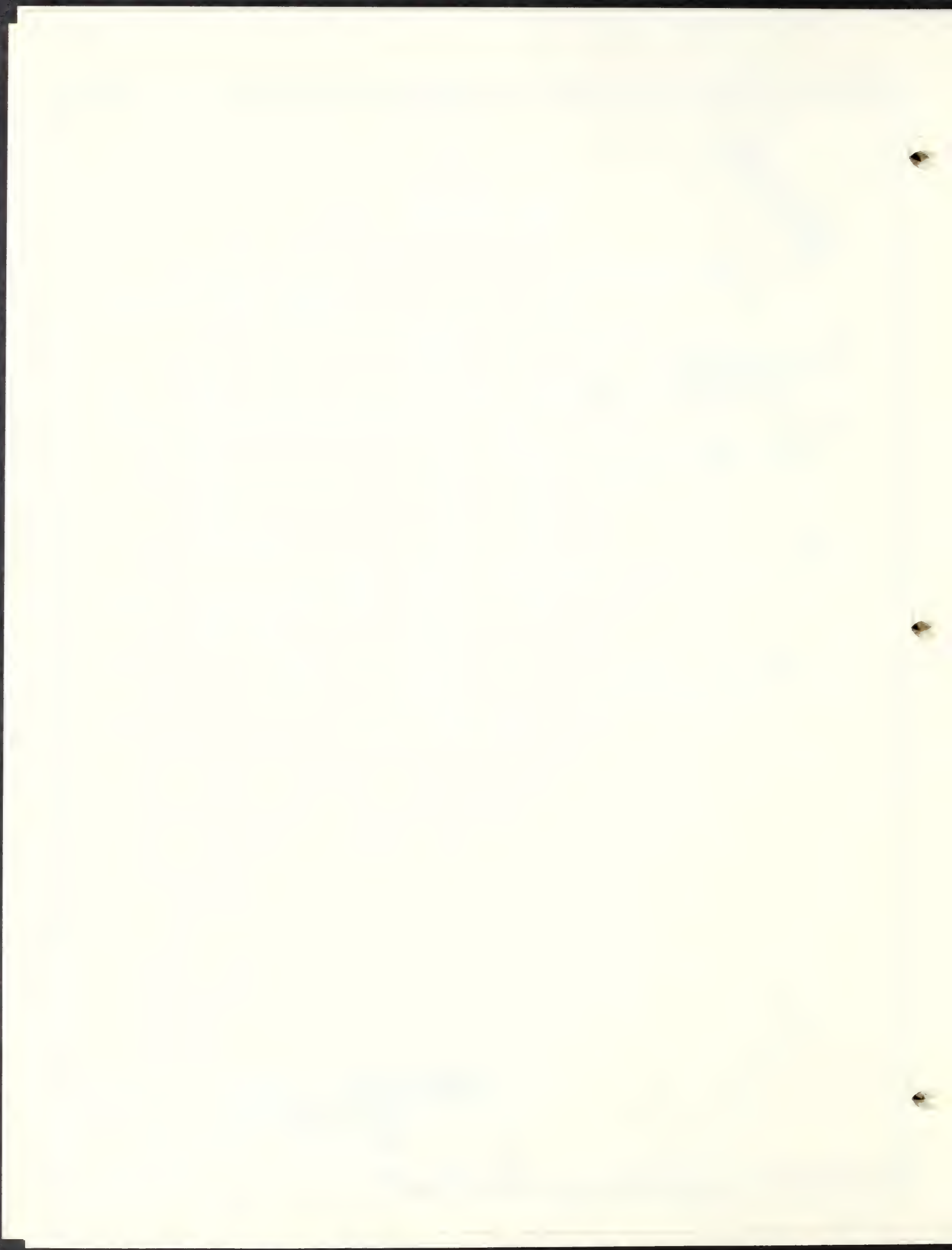
SHEET 1 OF 5



WETLAND #5

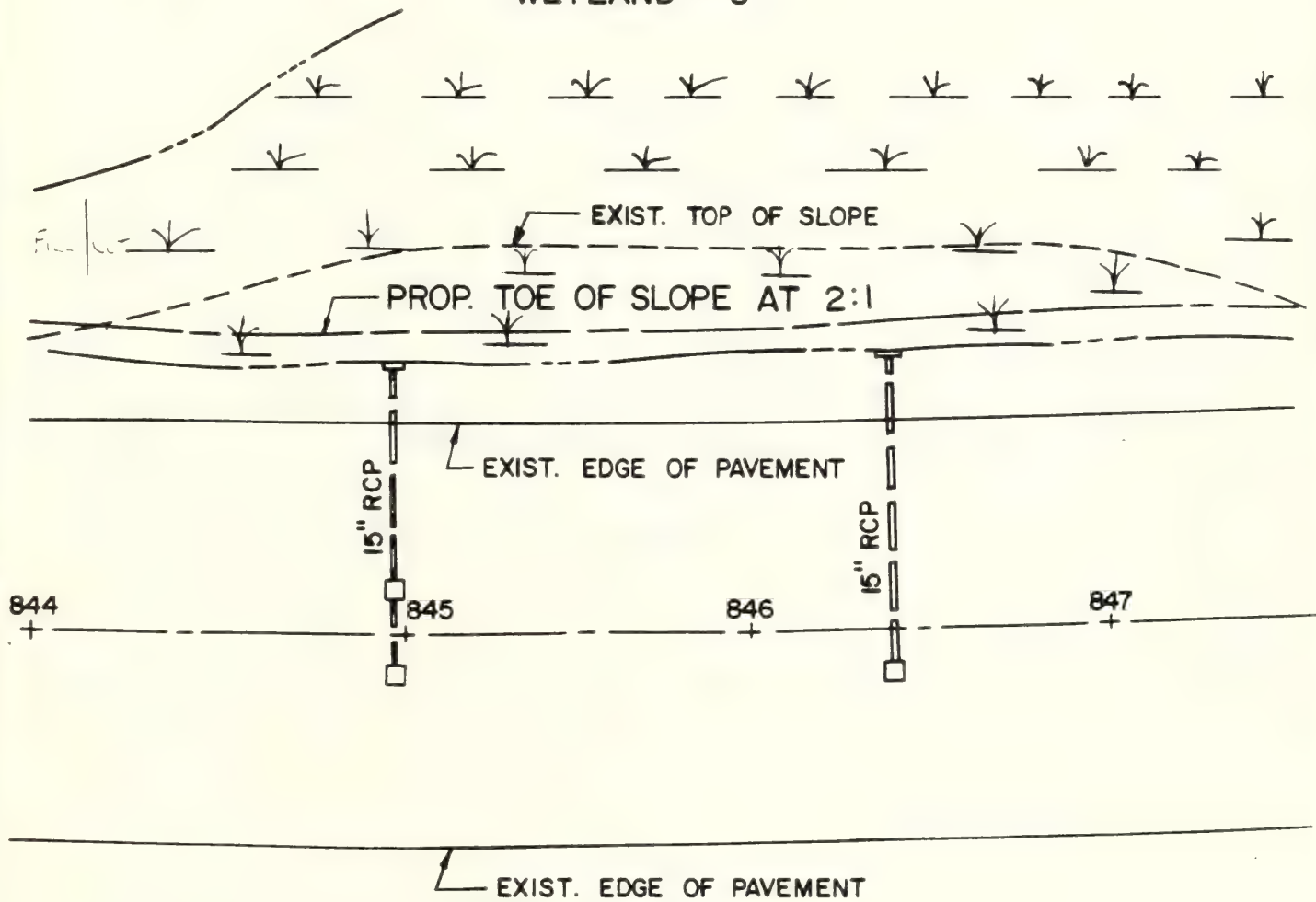


MASSACHUSETTS TURNPIKE AUTHORITY	
MAINLINE WIDENING 13-14	
WETLAND AREA 5	
SCALE 1"=50'	SHEET 2 OF 5





WETLAND #5



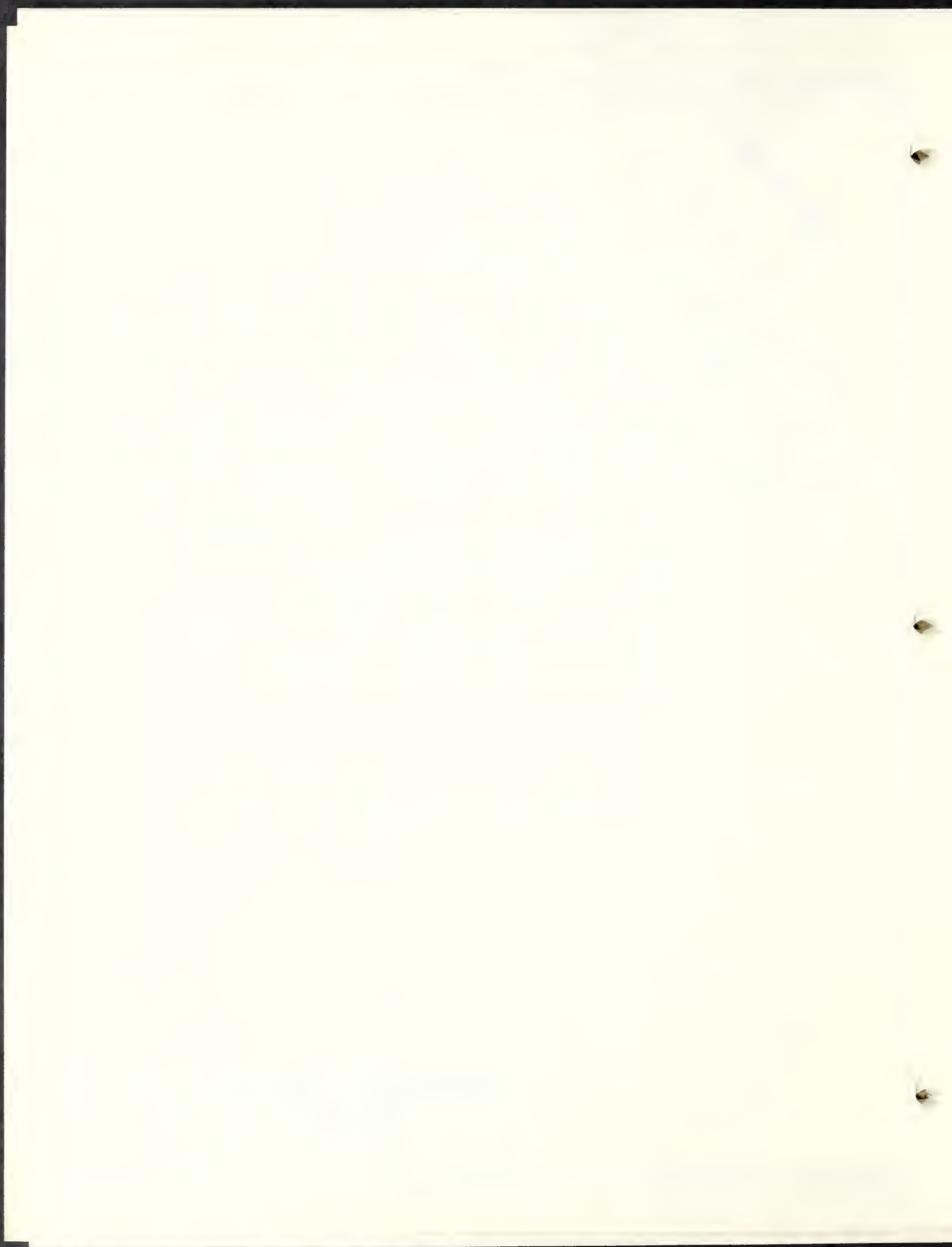
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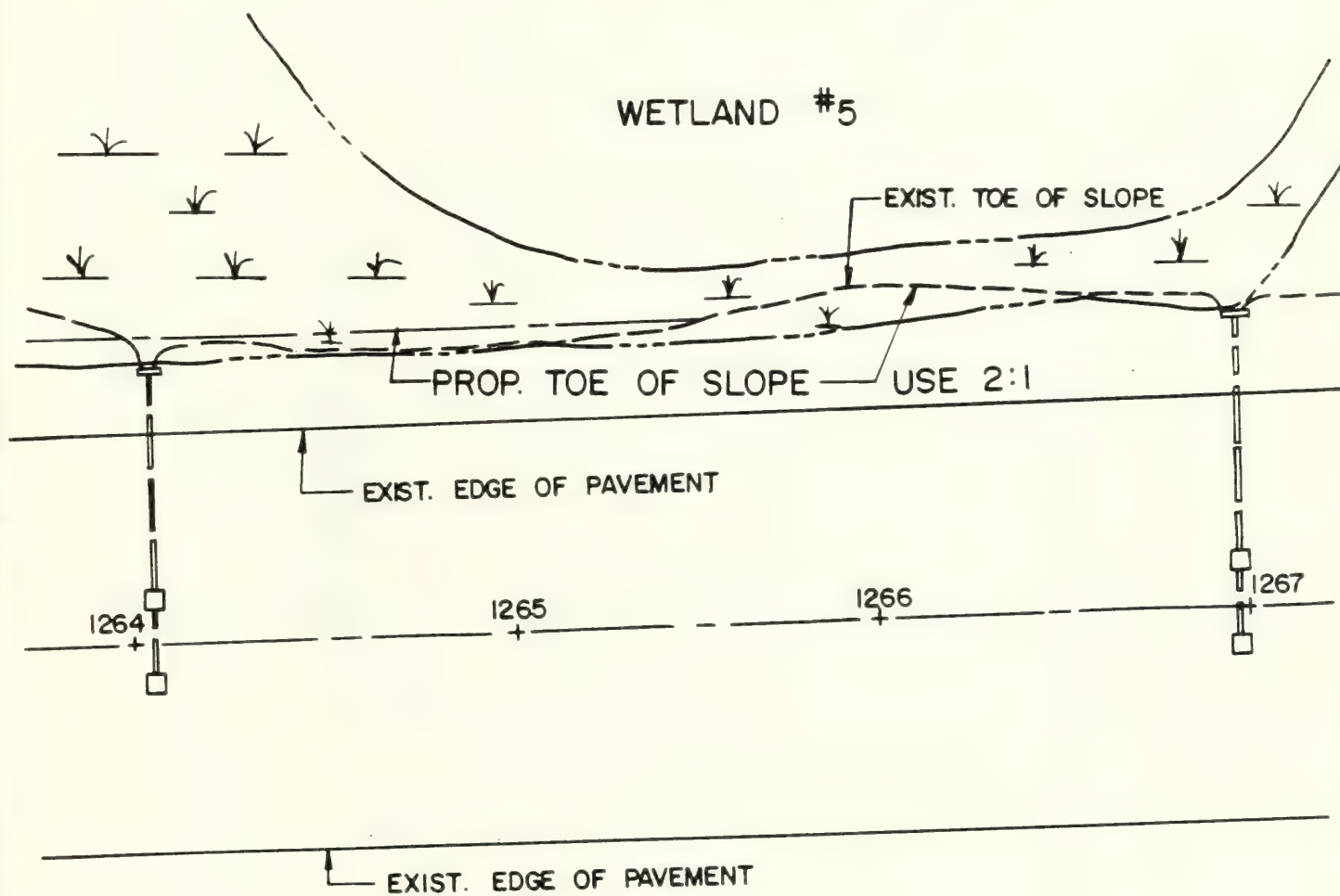
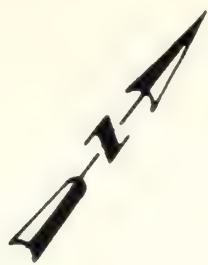
MAINLINE WIDENING 13-14

WETLAND AREA 5

SCALE 1"=50'

SHEET 3 OF 5





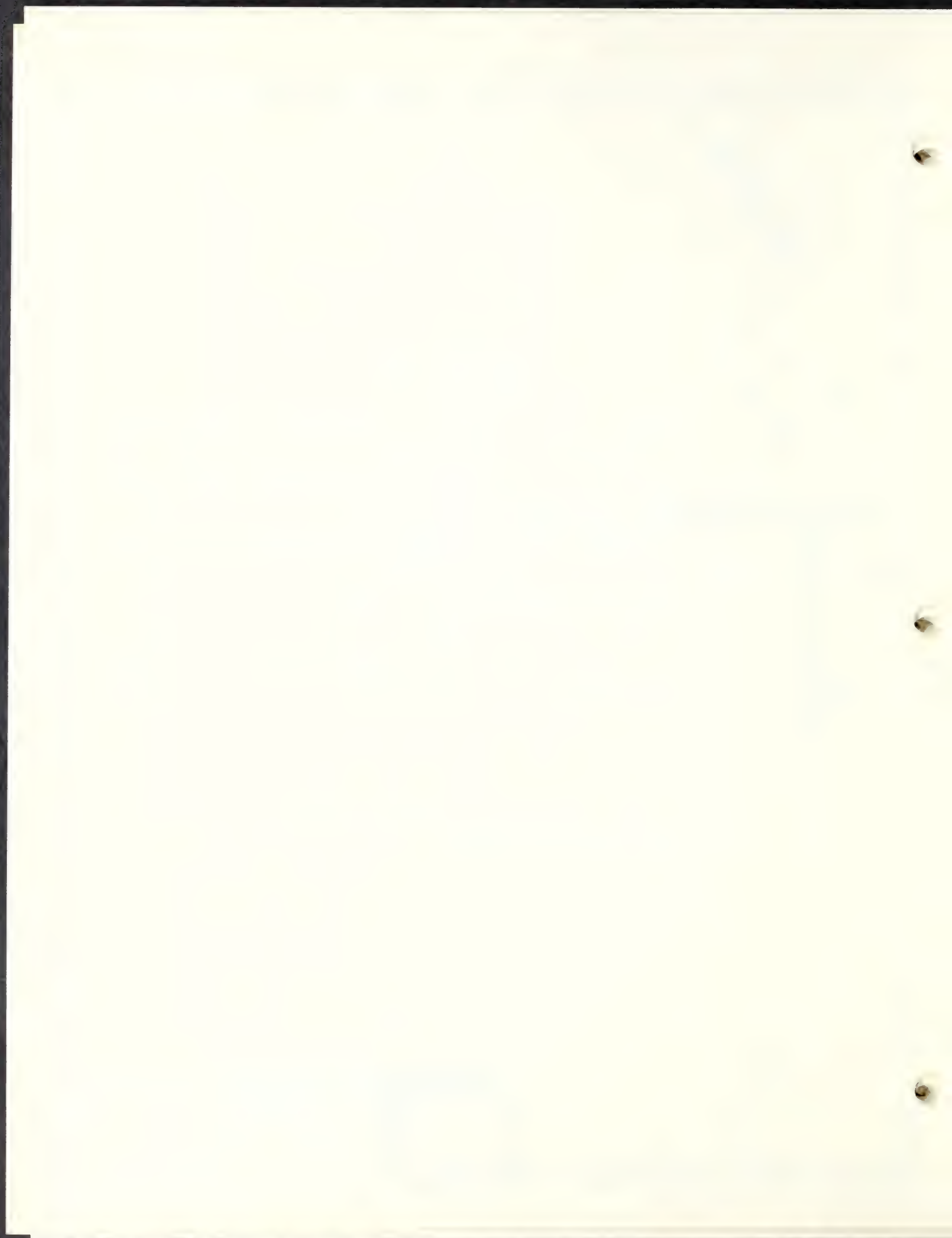
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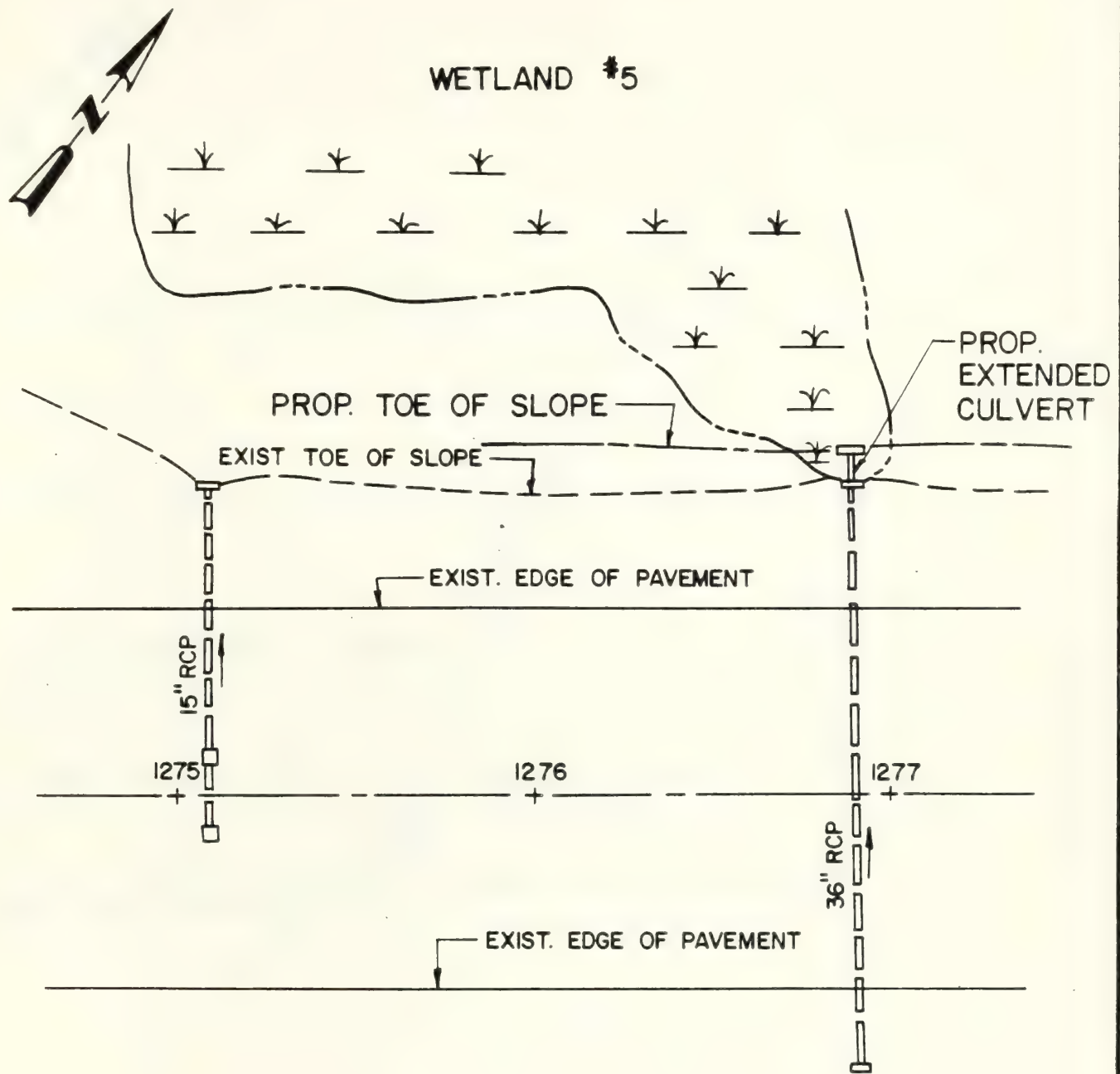
MAINLINE WIDENING 13-14

WETLAND AREA 5

SCALE 1"=50'

SHEET 4 OF 5





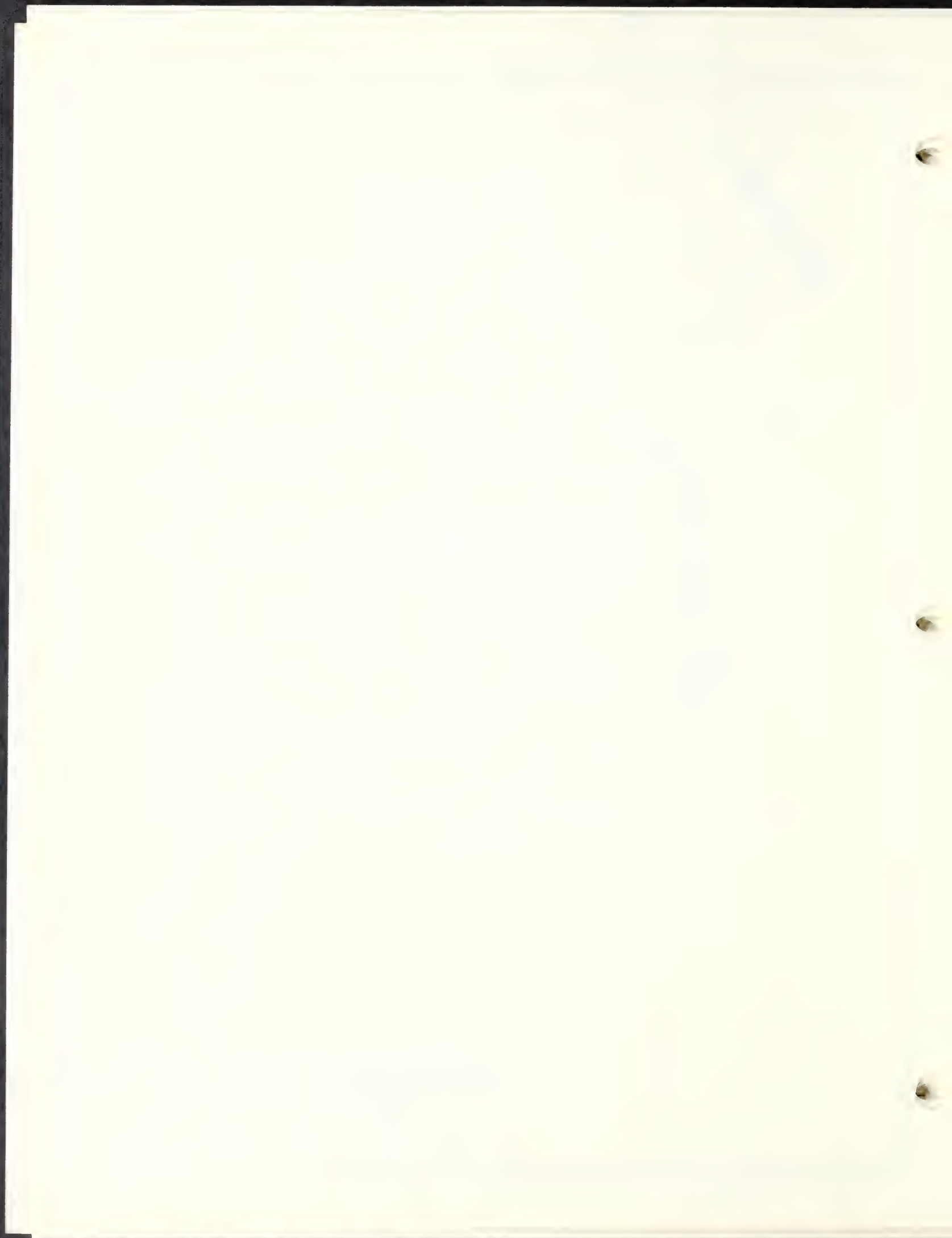
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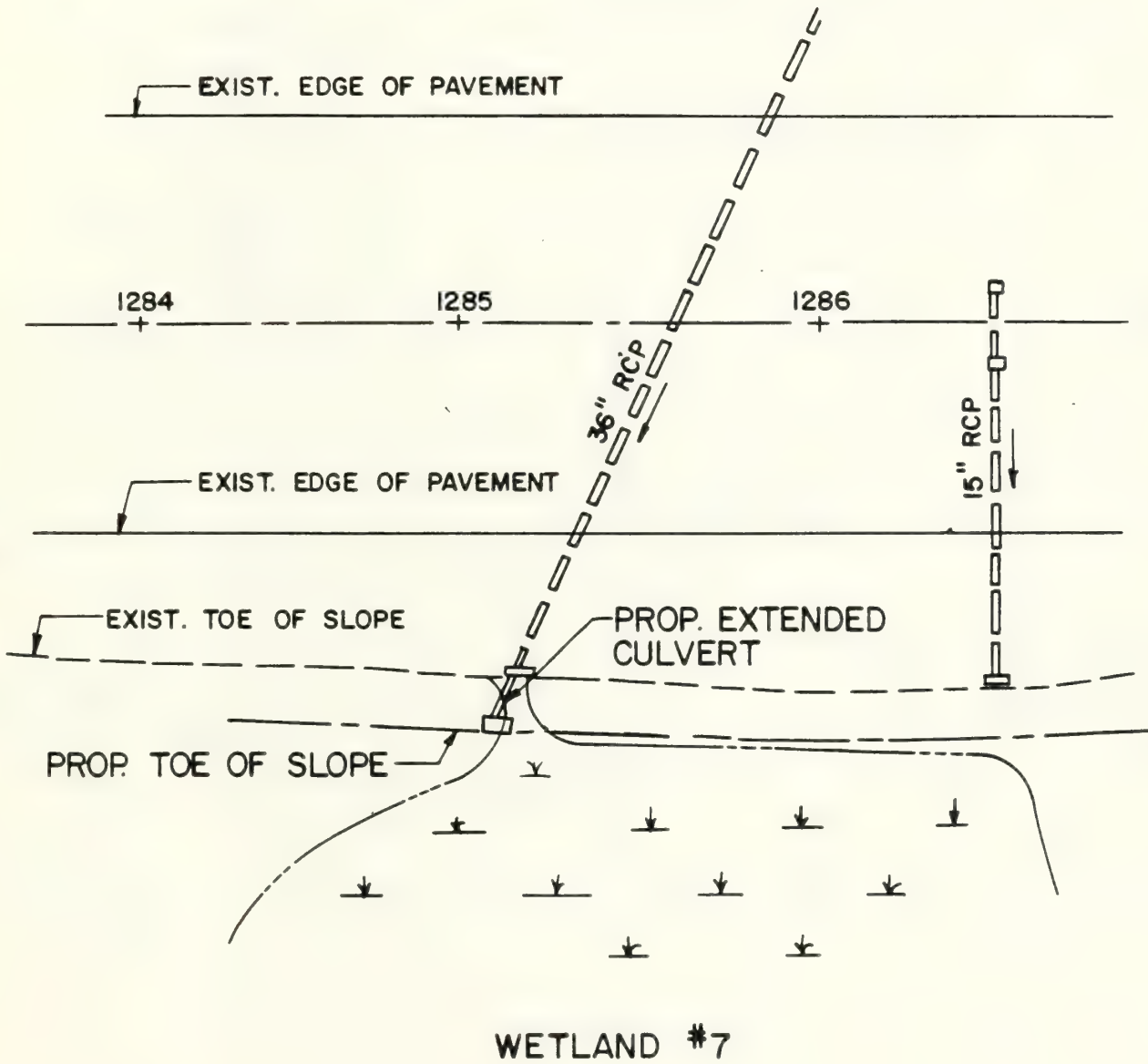
MAINLINE WIDENING 13-14

WETLAND AREA 5

SCALE 1"=50'

SHEET 5 OF 5



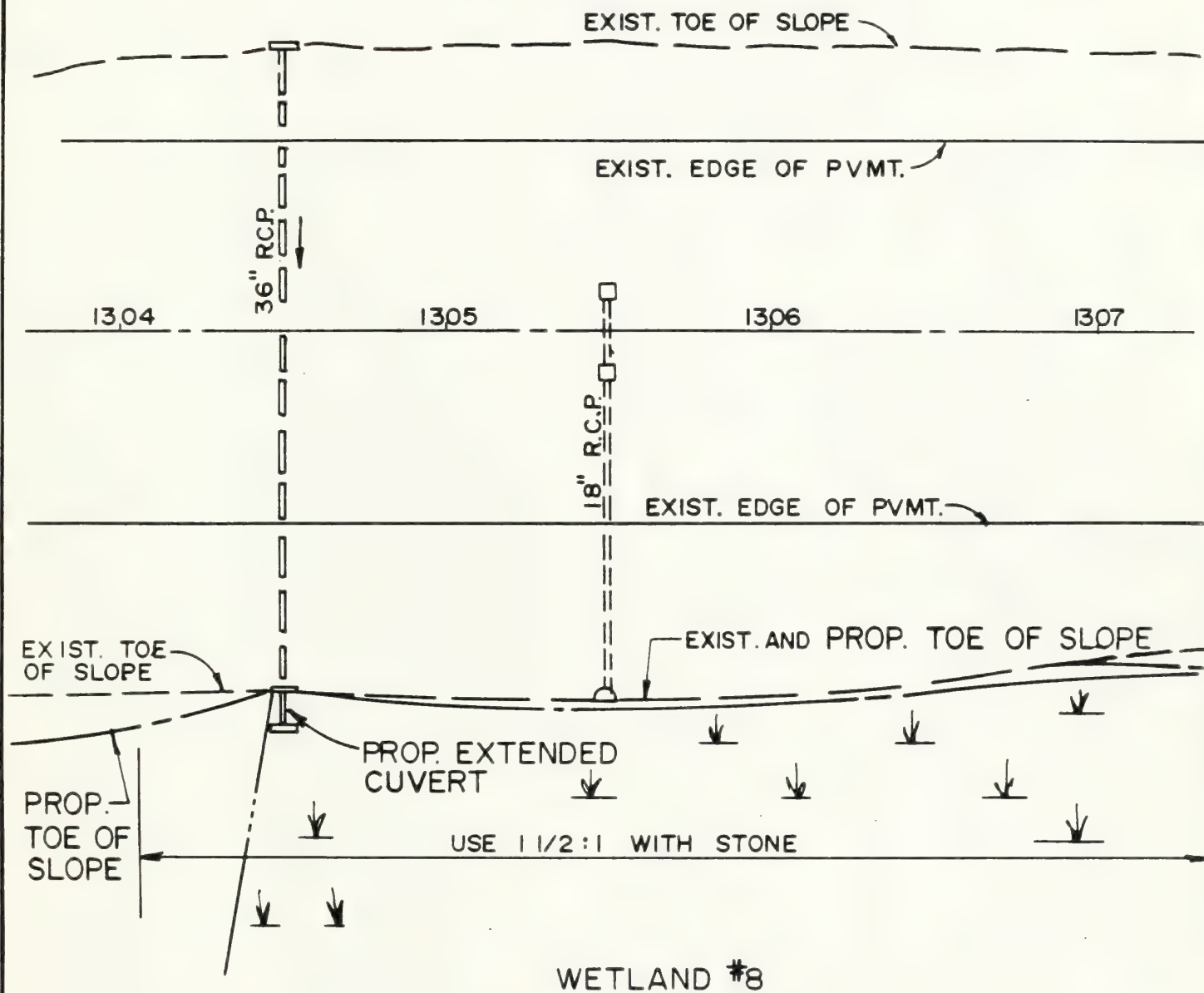


MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 7

SCALE 1"=50'

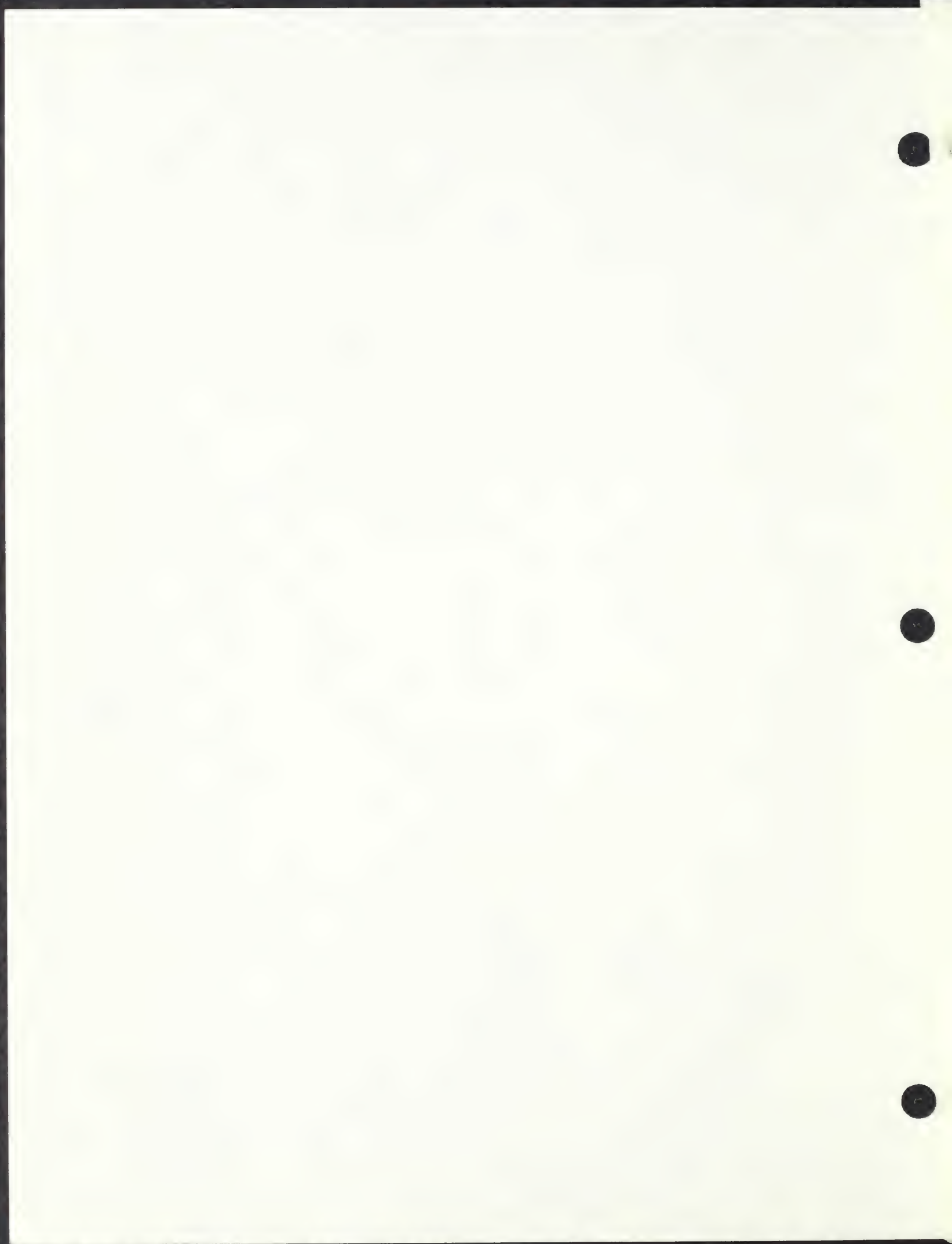


MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14
WETLAND AREA 8

SCALE 1"=50'

SHEET 1 OF 8





EXIST. TOE OF SLOPE

EXIST. EDGE OF PVMT.

1307

1308

1309

1310

EXIST. EDGE OF PVMT.

EXIST. TOE OF SLOPE

PROP. TOE OF SLOPE

WETLAND #8

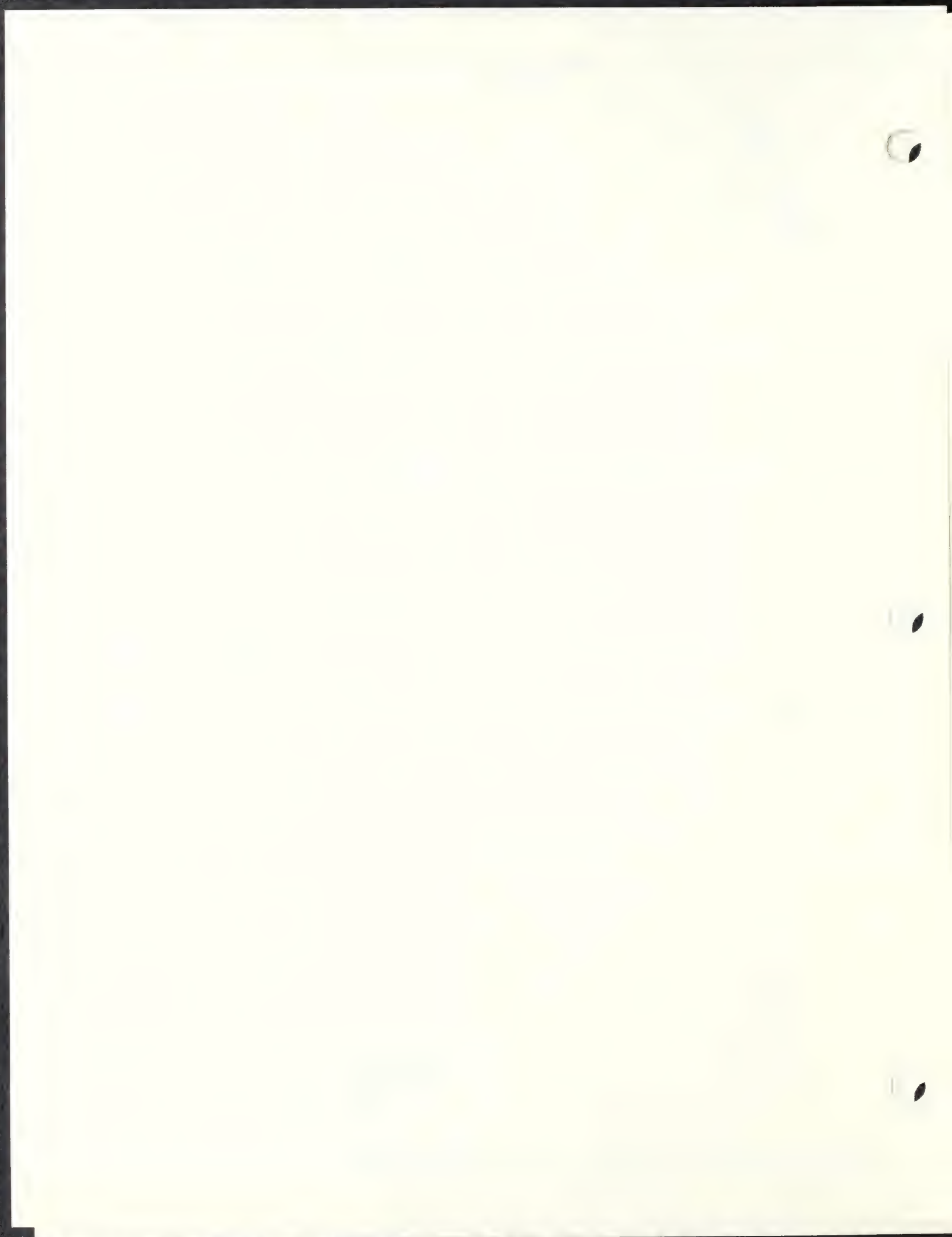
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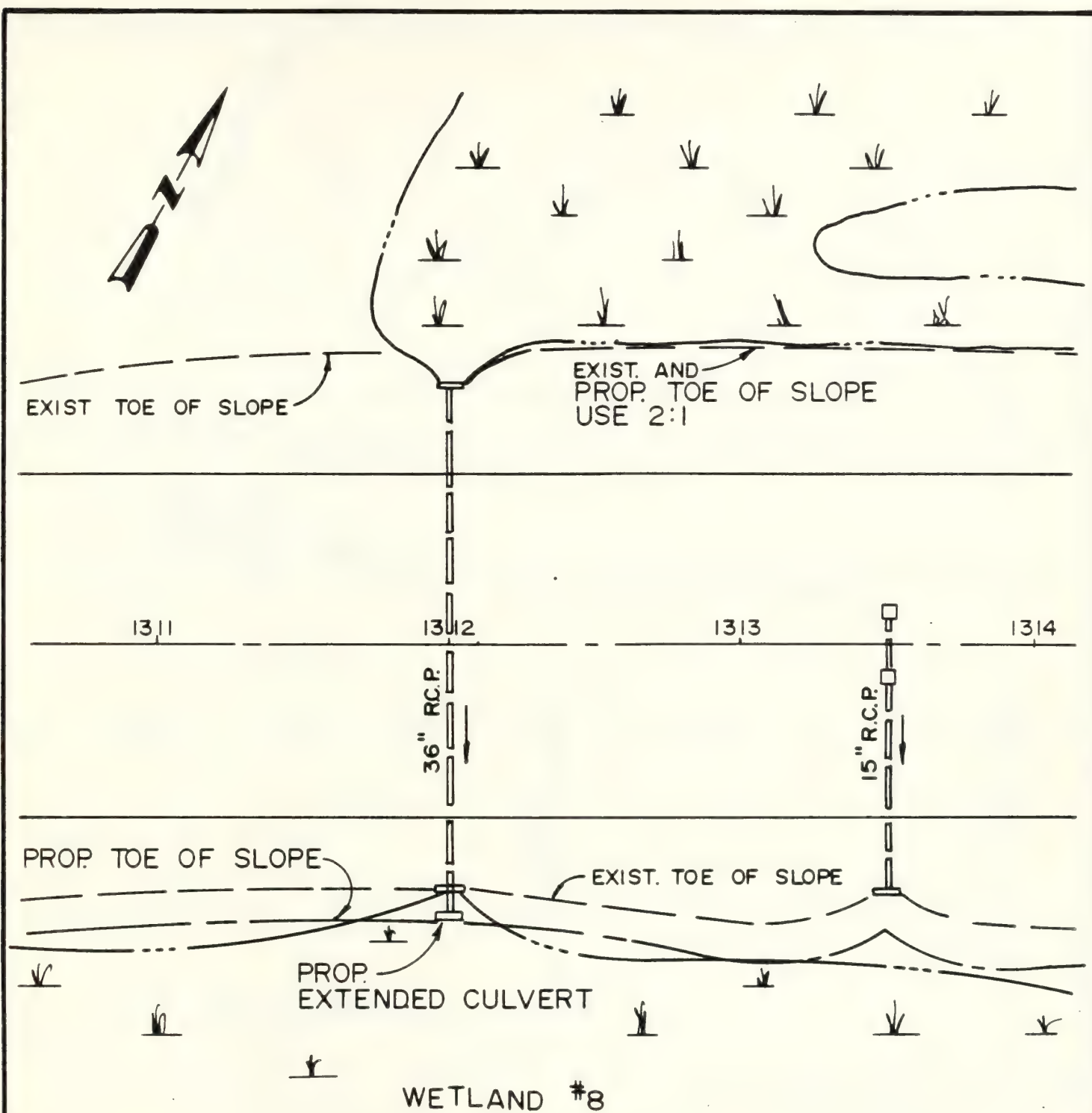
MAINLINE WIDENING 13-14

WETLAND AREA 8

SCALE 1"=50'

SHEET 2 OF 8





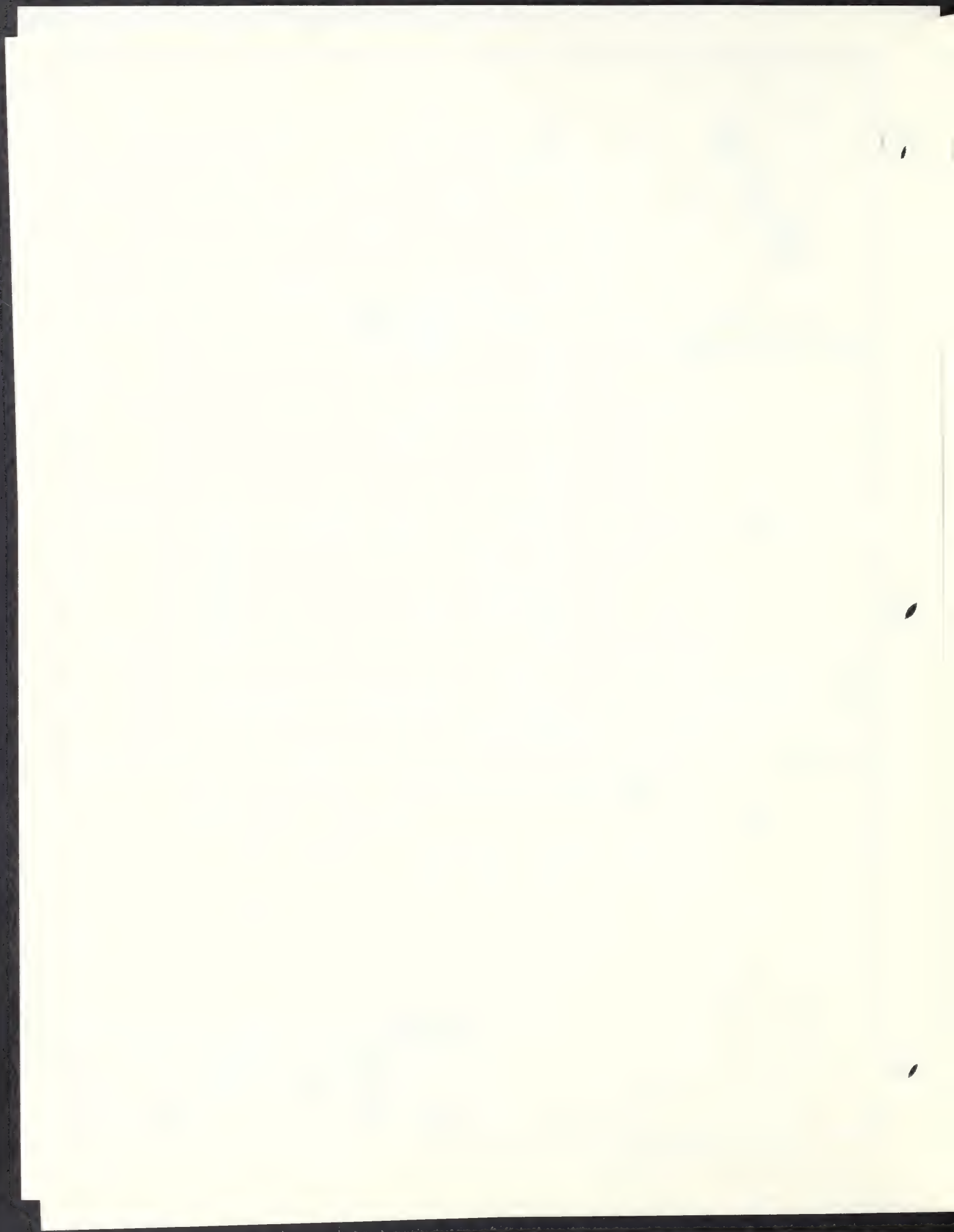
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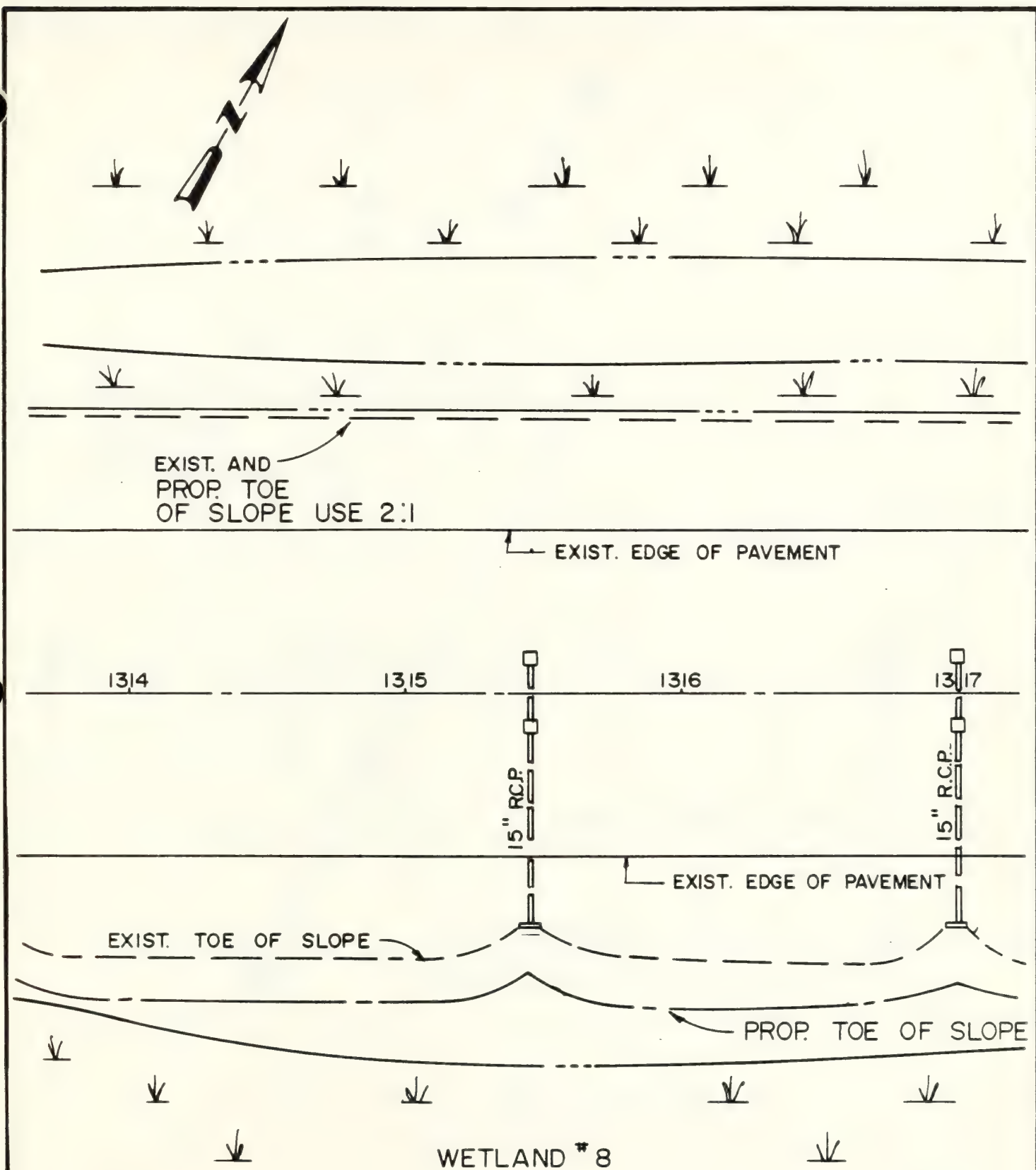
MAINLINE WIDENING 13-14

WETLAND AREA 8

SCALE 1"=50'

SHEET 3 OF 8



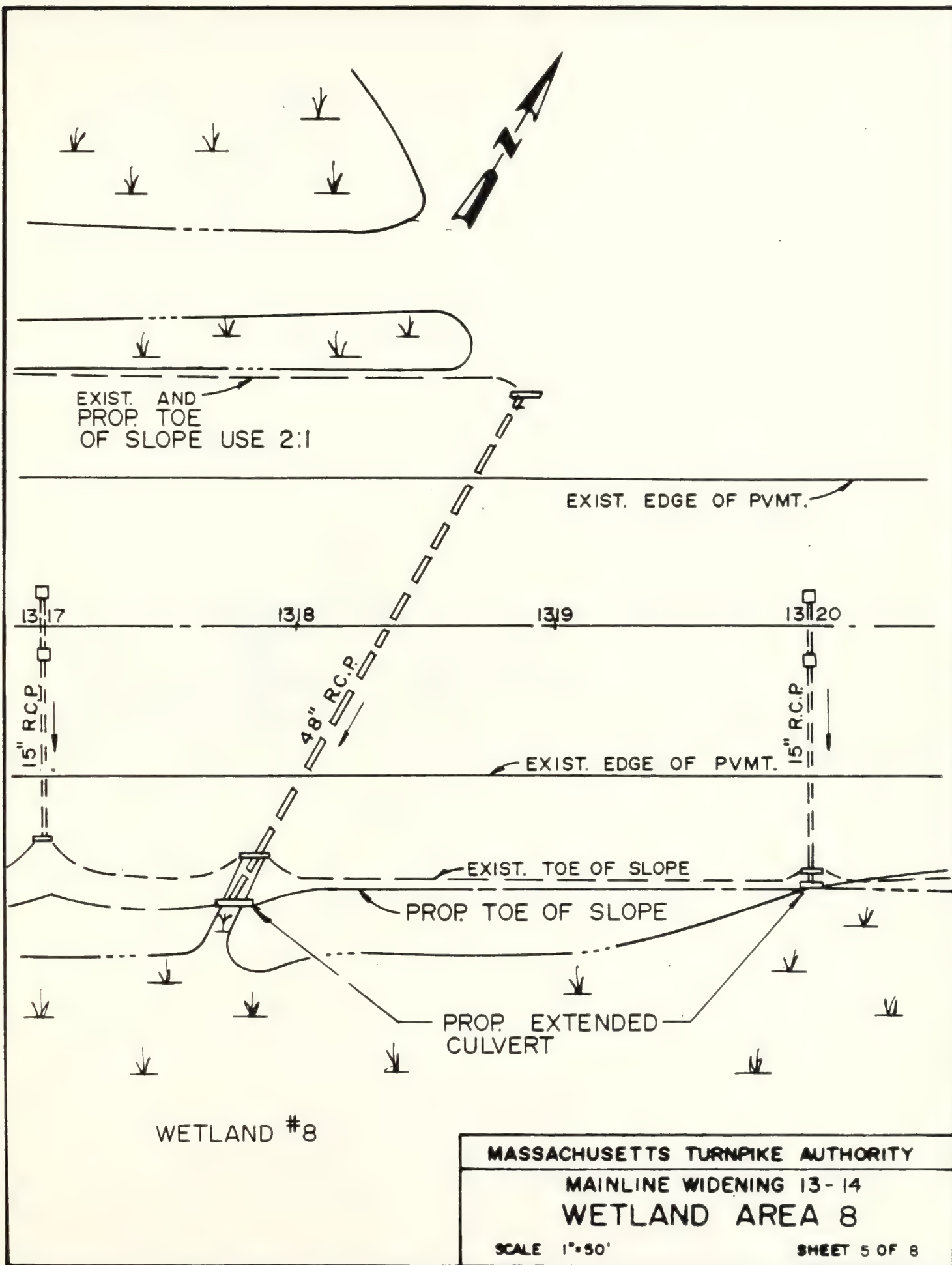


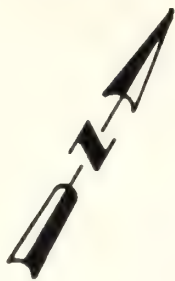
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14
WETLAND AREA 8

SCALE 1"=50'

SHEET 4 OF 8





EXIST. EDGE OF PVMT.

1321

1322

1323

15" R.C.P.

EXIST. EDGE OF PVMT.

EXIST.
TOE OF SLOPE

PROP.
TOE OF
SLOPE

EXIST. AND
PROP. TOE OF SLOPE
USE 3:1

WETLAND #8

MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 8

SCALE 1"=50'

SHEET 6 OF 8



EXIST. EDGE OF PVMT.

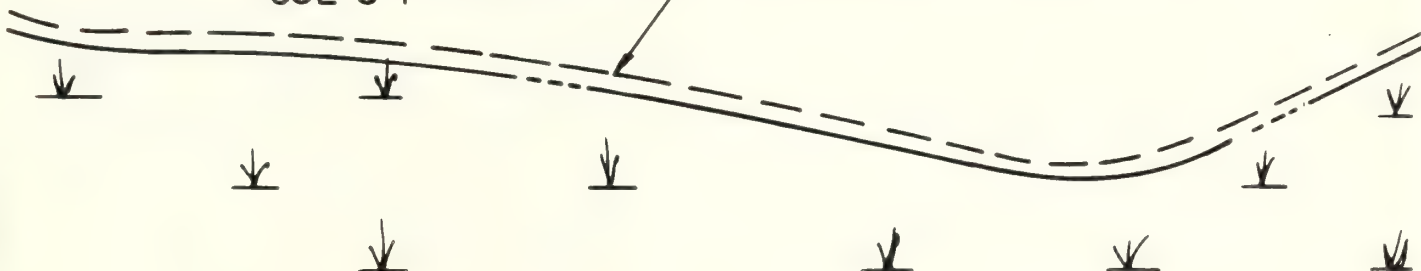
1324

1325

1326

EXIST. EDGE OF PVMT.

EXIST. AND
PROP. TOE OF SLOPE
USE 3:1



WETLAND #8

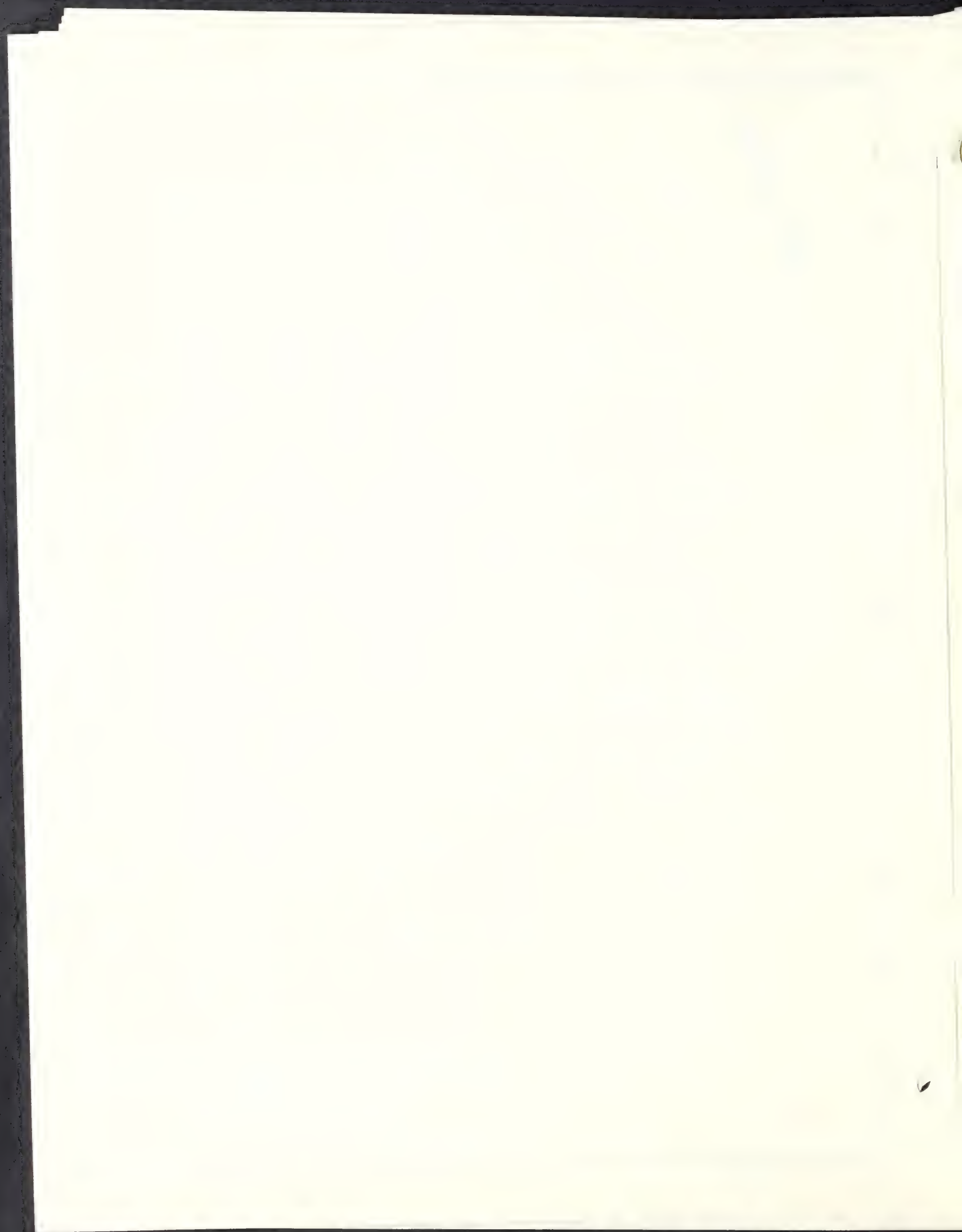
MASSACHUSETTS TURNPIKE AUTHORITY

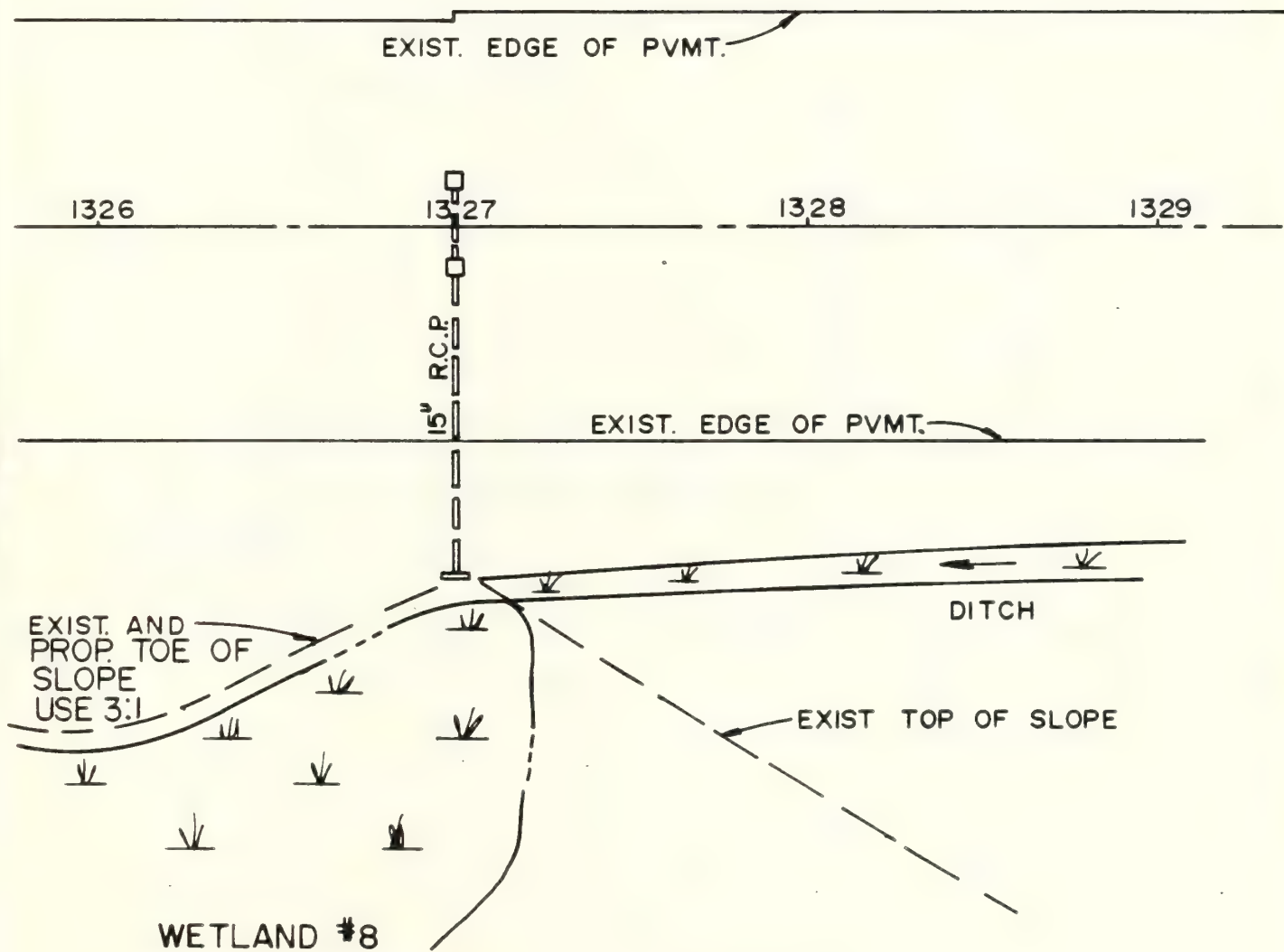
MAINLINE WIDENING 13-14

WETLAND AREA 8

SCALE 1"=50'

SHEET 7 OF 8



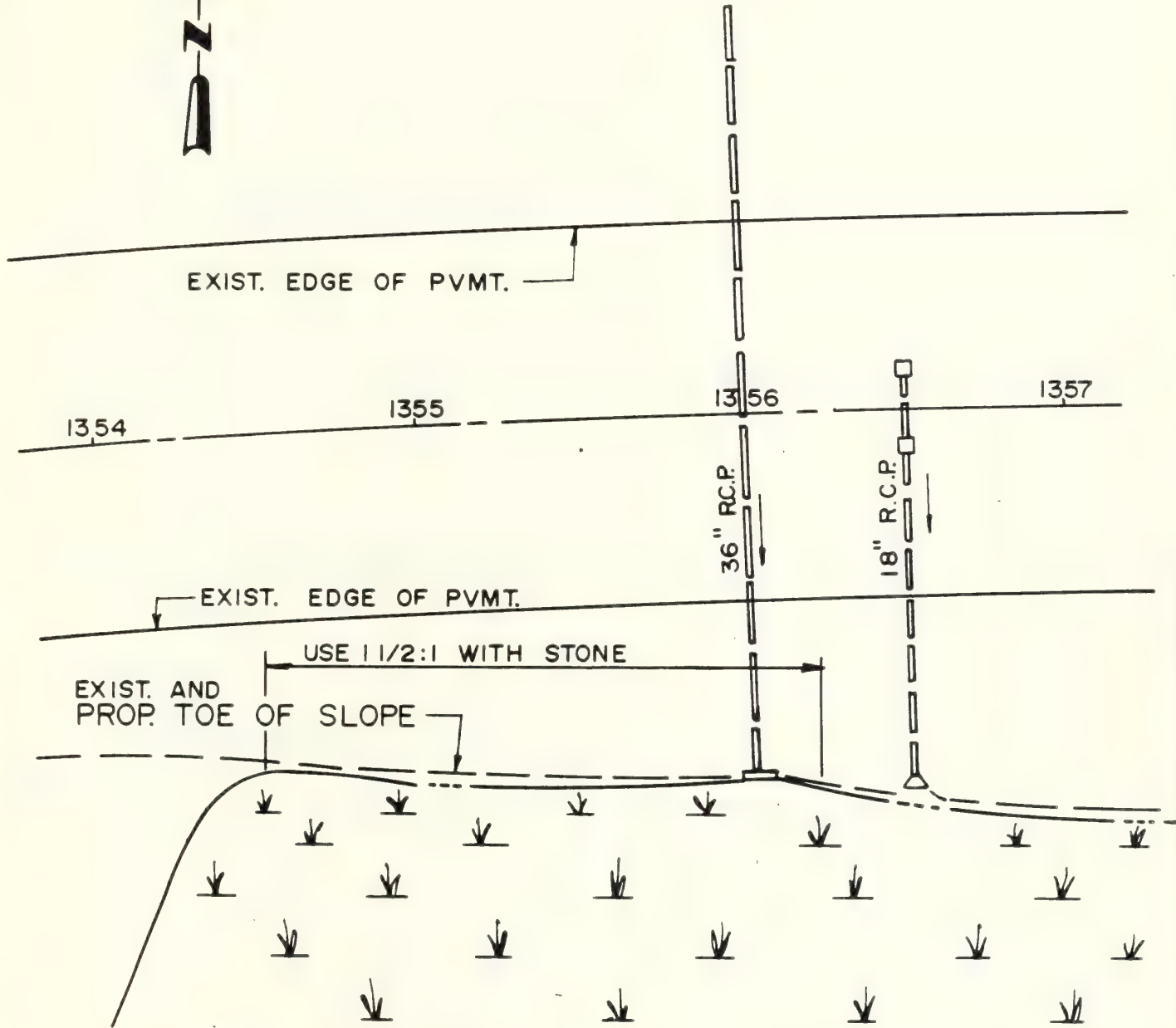


MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14
WETLAND AREA 8

SCALE 1"=50'

SHEET 8 OF 8



WETLAND # 13

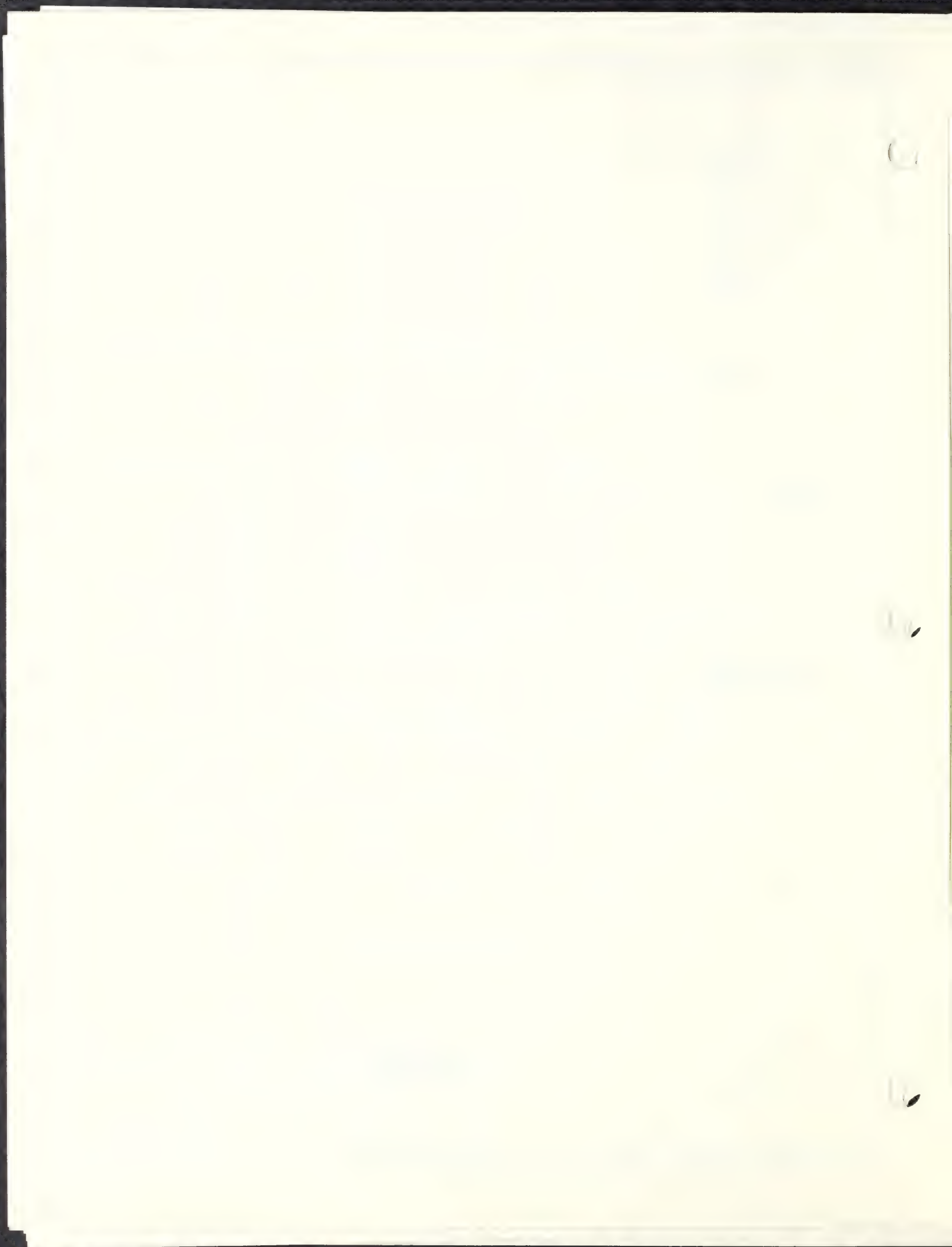
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 13

SCALE 1"=50'

SHEET 1 OF 2





EXIST. EDGE OF PVMT.

1357

1358

1359

1360

EXIST. EDGE OF PVMT.

R.C.P.

18"

EXIST. AND
PROP. TOE OF SLOPE

WETLAND *13

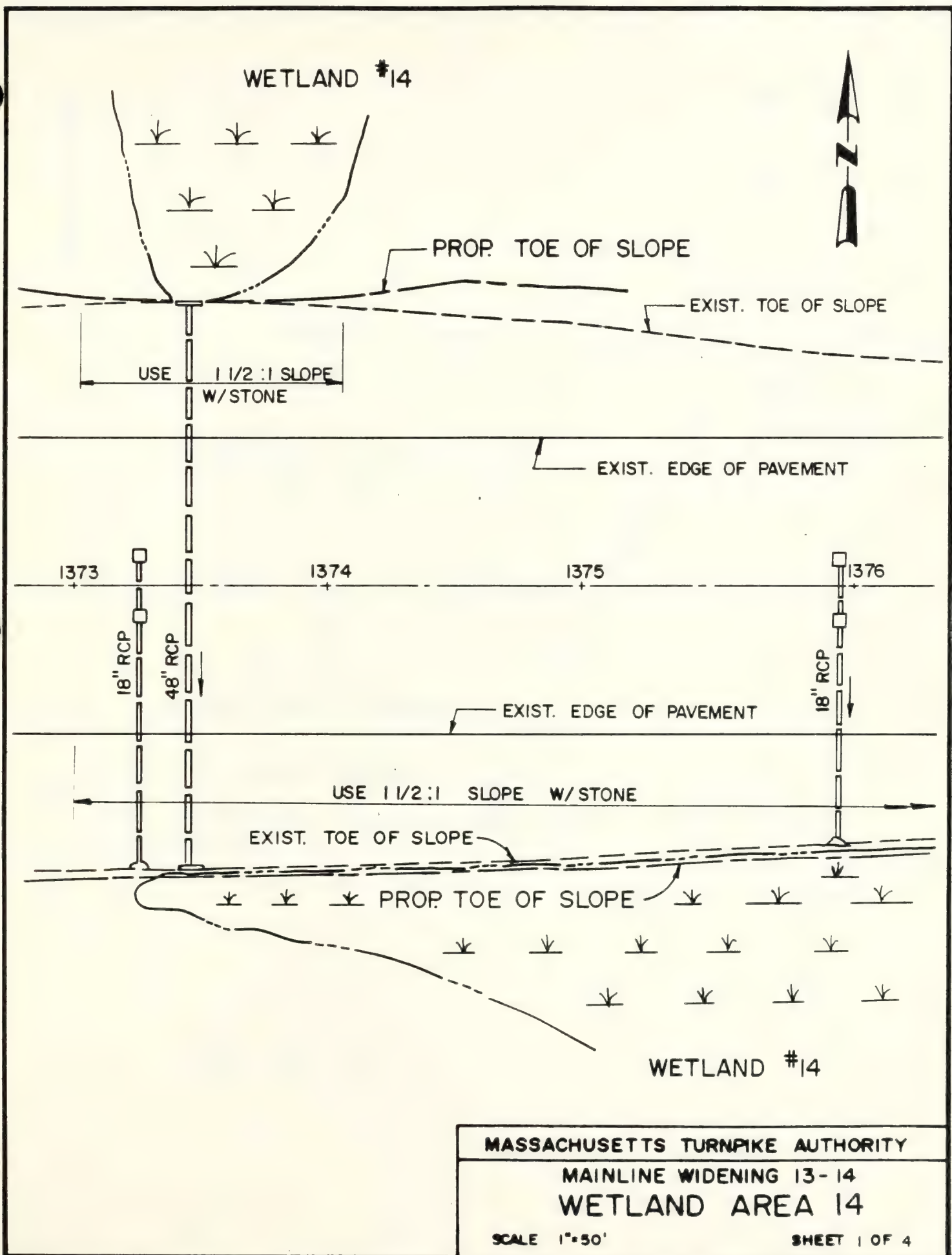
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 13

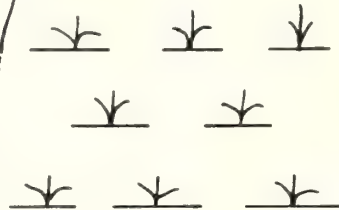
SCALE 1"=50'

SHEET 2 OF 2





WETLAND #14



EXIST. TOE OF SLOPE

EXIST. AND
PROP.
TOE OF SLOPE

EXIST. EDGE OF PAVEMENT

1377

1378

1379

EXIST. EDGE OF PAVEMENT

USE 1 1/2 : 1 SLOPE W/STONE

EXIST. TOE OF SLOPE



PROP. TOE OF SLOPE

WETLAND #14

MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

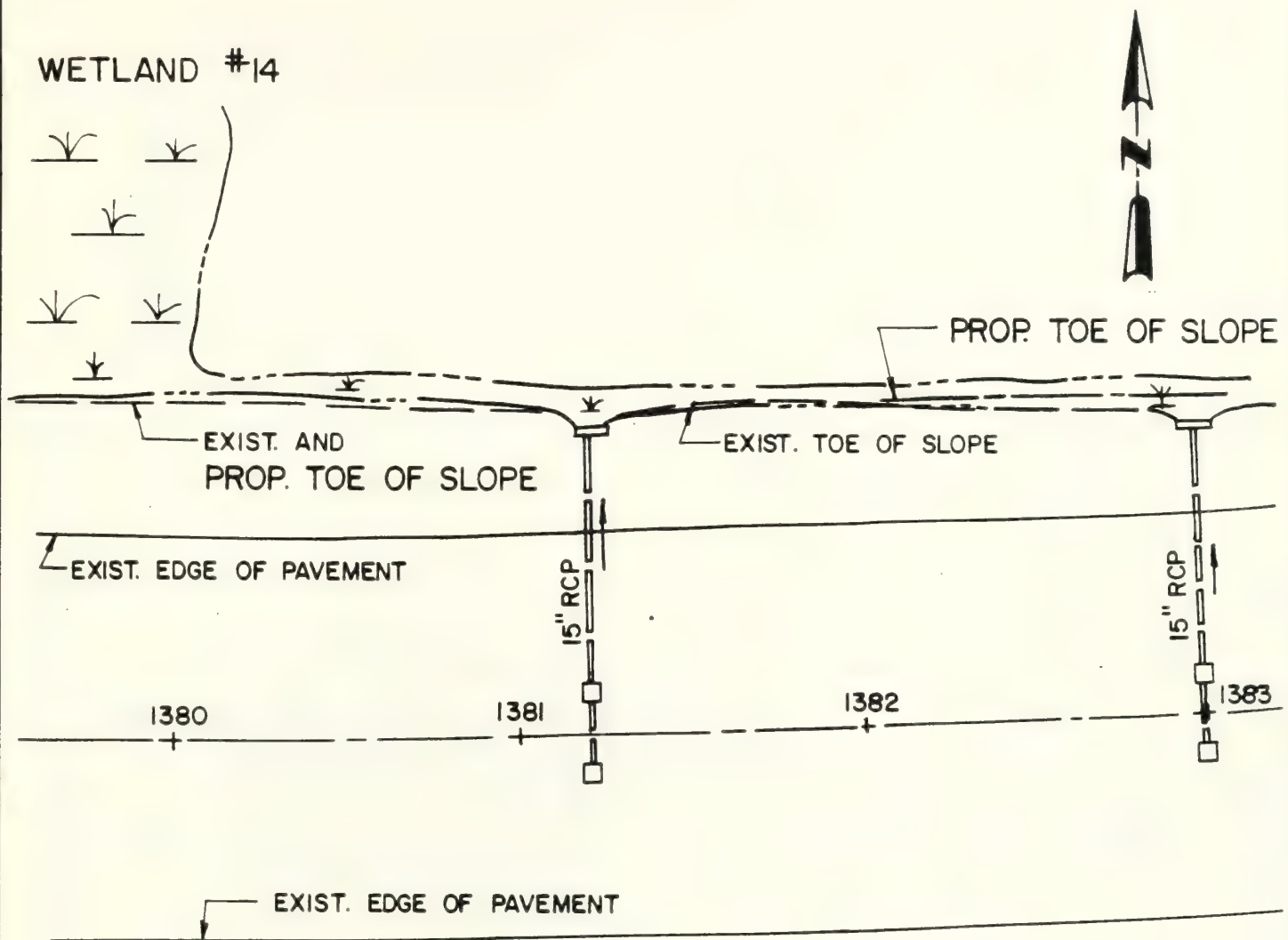
WETLAND AREA 14

SCALE 1"=50'

SHEET 2 OF 4



WETLAND #14



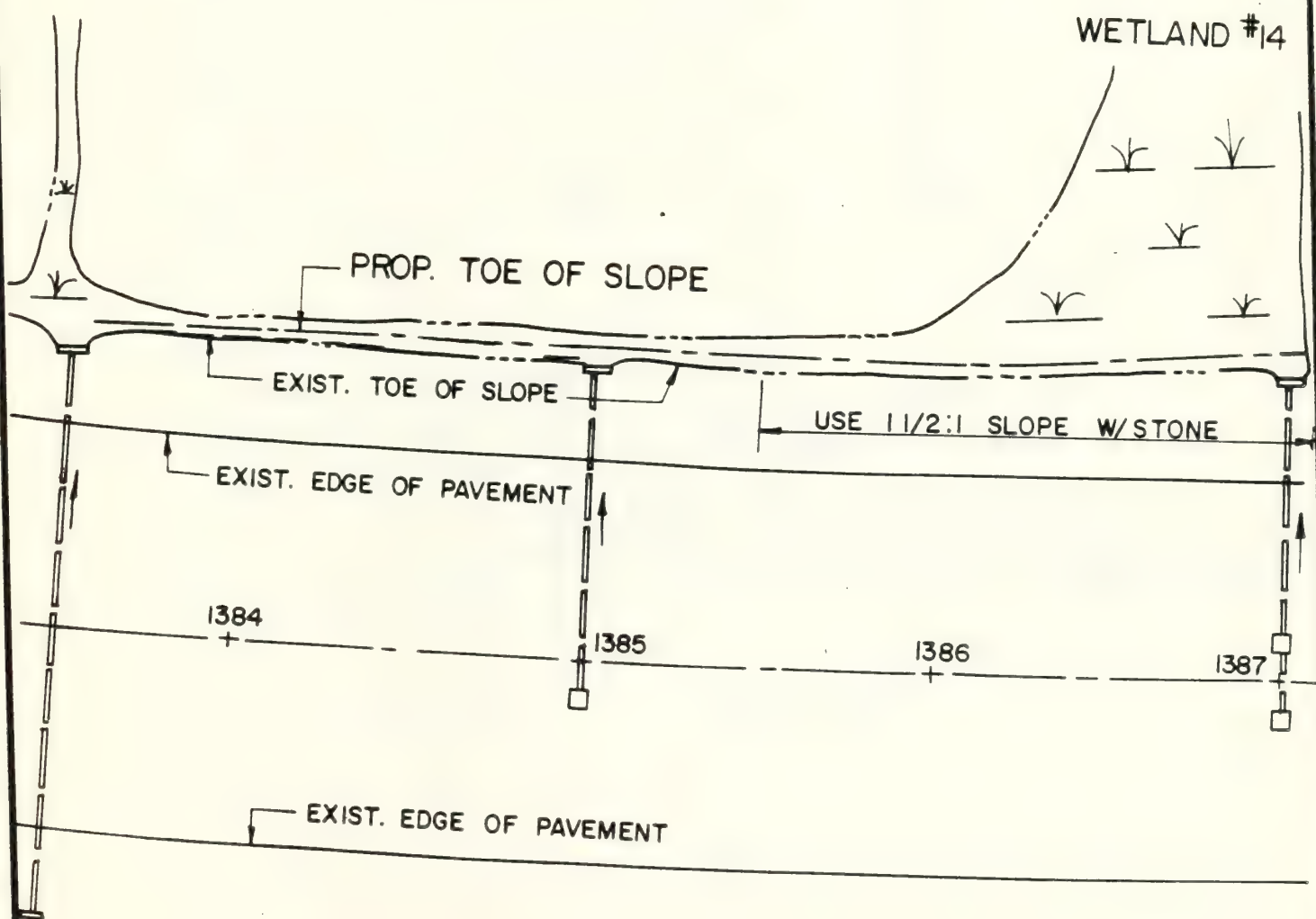
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 14

SCALE 1"=50'

SHEET 3 OF 4



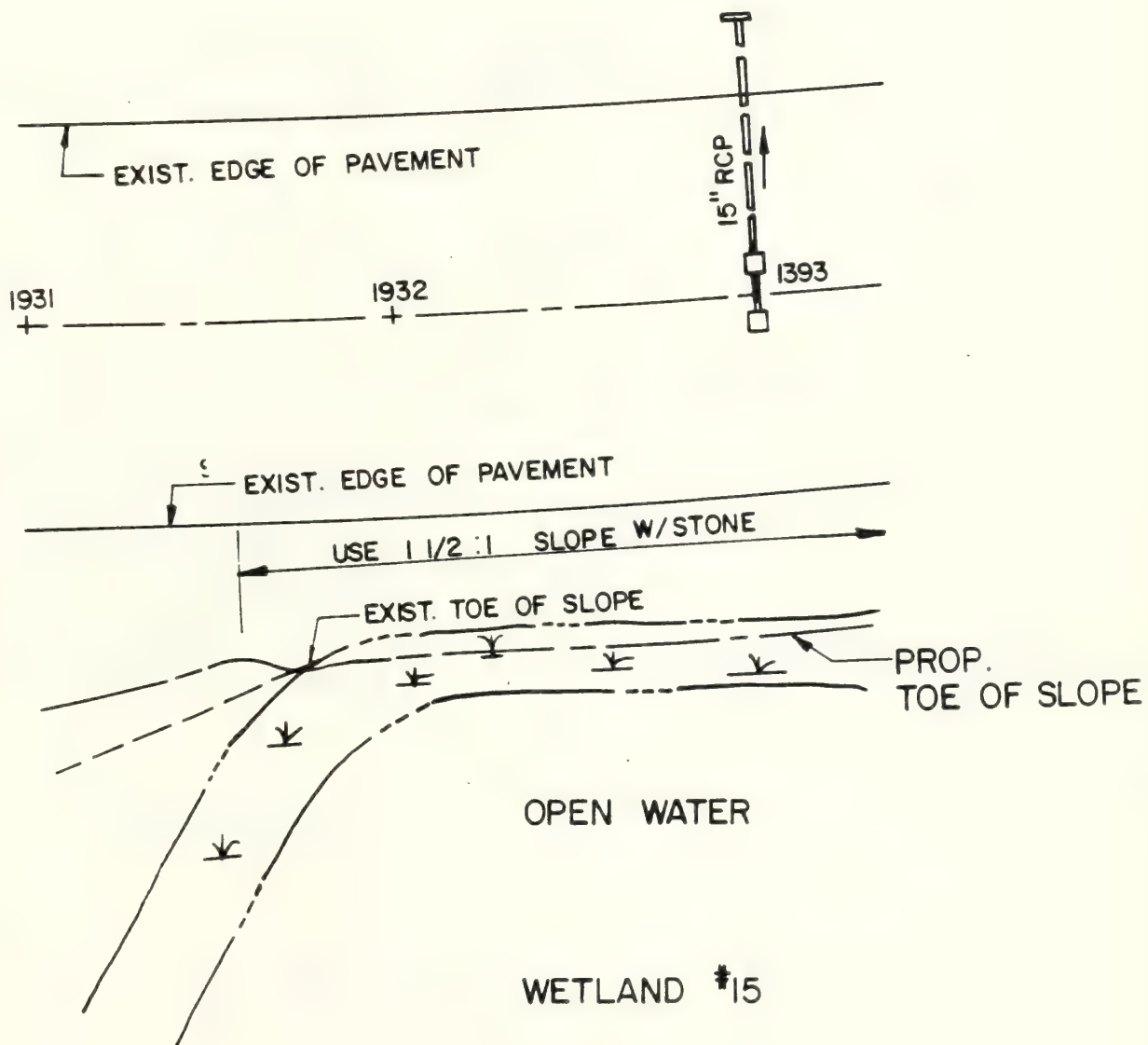
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 14

SCALE 1"=50'

SHEET 4 OF 4



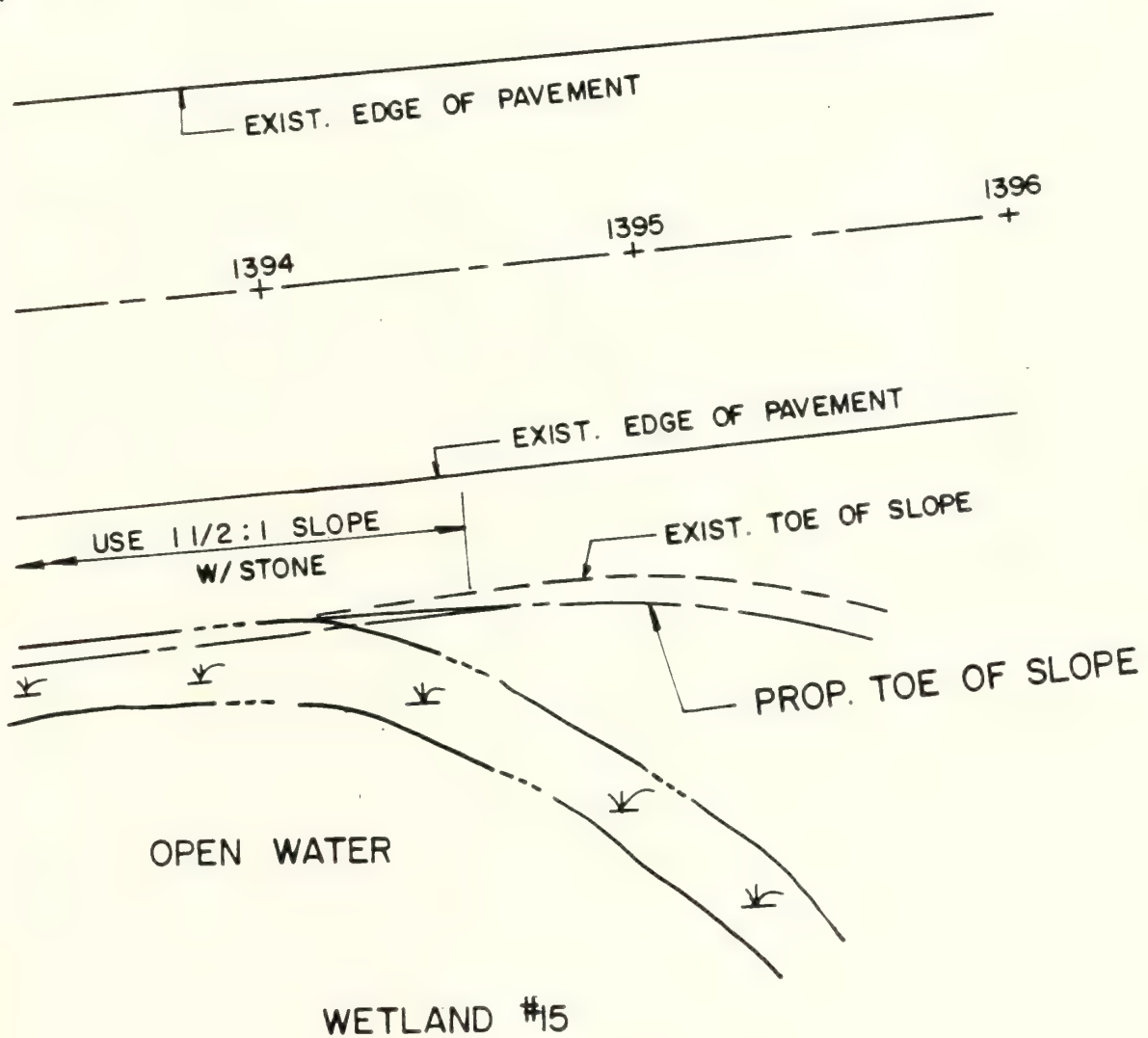
MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14

WETLAND AREA 15

SCALE 1"=50'

SHEET 1 OF 2



MASSACHUSETTS TURNPIKE AUTHORITY

MAINLINE WIDENING 13-14
WETLAND AREA 15

SCALE 1"=50'

SHEET 2 OF 2

Appendix C

MAINLINE WIDENING
APPENDIX C - WATER QUALITY

The proposed improvements along the turnpike mainline between Interchanges 13 and 14 will result in some minor impact to the water quality of Lake Cochituate, Snake Brook, Norumbega Reservoir, Pickerel Pond, and Nonesuch Pond, as well as that of underlying groundwater. Water quality impacts result from sedimentation and erosion during construction, road salt use during winter storms, and petroleum products, nutrients, and metals from highway runoff. Construction-related water quality impacts are only temporary, and will be sufficiently mitigated by implementing an effective soil erosion and sediment control plan. Other water quality constituents, such as petroleum products, nutrients, metals and BOD, are present in highway runoff in proportion to the traffic volume. Because the proposed turnpike improvements will not result in increased traffic volumes, other than normal growth, there will be no water quality impacts regarding the above constituents as a consequence of this project.

Water quality data from Nonesuch Pond is available from a sample collected April 10, 1986.* Snake Brook and Lake Cochituate have been sampled by the U.S.G.S. for an open file report on Lake Cochituate (Open File Report #84-4315). Norumbega Reservoir is sampled regularly by the MDC. Pickerel Pond water quality data is not available, but has been projected using methods developed by the U.S.G.S. These results are summarized in Table III.

A potential water quality impact that would be attributed to this project is slightly higher levels of sodium and chloride in surface and groundwater, resulting from increased salt use on the turnpike. The significance of the increased sodium and chloride levels has been predicted for both surface and ground water using standard methods.

The U.S.G.S. performed detailed studies in several Massachusetts streams of the response in sodium chloride levels to increased salt usage within the watershed (U.S.G.S.; OFR 81-209, 1981). Equations were developed from these studies that predict the average and maximum expected sodium and

* See Figure 3.

chloride concentrations resulting from a particular annual salt application. Other factors considered in this method include the drainage area; average annual discharge; lake, pond and wetland storage area; slope of the watershed; and annual salt usage within the watershed, in tons.

The watershed areas of each surface water body, which encompasses the entire road widening project, were used to model the water quality impacts. Table I shows the increased roadway area and drainage areas of each surface water body impacted. Based on an average annual salt use rate of 20 tons per lane-mile, the existing and future annual salt loads were determined. Table II shows these predicted concentrations in the impacted surface waters. As Lake Cochituate is impacted by improvements at Interchange 13, for which a separate ENF has been submitted, concentrations in Table II represent the total impact due to both the mainline widening and improvements to Interchange 13.

Table I

TURNPIKE AREA AND DRAINAGE AREAS
OF IMPACTED SURFACE WATER BODIES

Surface Water	Drainage Area (square miles)	Turnpike Length (lane-miles)	
		existing	future
Norumbega Reservoir	0.20*	1.02	1.36
Nonesuch Pond	2.6	12.9	17.0
Snake Brook	2.1	10.6	13.9
Pickerel Pond	0.17	6.8	9.1
Lake Cochituate (All MTA Projects)	17.7	10.6	13.9
Lake Cochituate (Mainline Only)	17.7	4.6	6.1

- * Does not reflect entire drainage area since Norumbega Reservoir is a storage area for the MDC water supply system which flows in and out of the reservoir via the aqueduct.

Table II

EXISTING AND FUTURE CONCENTRATIONS OF SODIUM AND CHLORIDE
IN SURFACE WATERS RESULTING FROM
PROPOSED TURNPIKE IMPROVEMENTS

Surface Water (Condition)	Mean Chloride	Maximum Chloride	Mean Sodium	Maximum Sodium
Pickerel Pond				
(existing)	86	156	39	82
(future)	114	204	50	105
Nonesuch Pond				
(existing)	97	139	56	81
(future)	133	180	68	101
Snake Brook				
(existing)	48	99	31	59
(future)	67	128	40	75
Lake Cochituate*				
(existing)	51	62	29.3	43
(future)	57	78	29.9	45

* Includes Interchange 13 Improvements

Norumbega Reservoir is used daily by the MDC to store water as it travels through the aqueduct. The actual flow through the reservoir is approximately 395 cubic feet per second, which is a great deal higher than that of the other surface water bodies considered in this analysis. The high flow will allow for all road runoff entering the reservoir to be highly diluted. Therefore, it can be concluded that the proposed turnpike improvements will not cause a significant impact to Norumbega Reservoir.

From Table II it can be seen that Nonesuch Pond, Snake Brook and Pickerel Pond will experience significant water quality impacts, due to relatively large highway areas, and small drainage areas in each watershed. Lake Cochituate is impacted, however, to a much lower degree since the roadway is much smaller compared to its watershed. All of these surface waters

have relatively high sodium and chloride levels relative to drinking water standards and recommended limits. None of these four surface waters, however, is used as water supply. They all are designated as "Class B" waters, which have no specific sodium or chloride standards. The increases likely to be caused by this project, though significant, should not cause harm to any existing aquatic community, nor to any water supply.

There will also inevitably be some introduction of sodium and chloride into the groundwater. The actual rise in concentration may be more than that predicted for the surface water, as most of the road salt infiltrates the groundwater. However, predictions of exact groundwater sodium and chloride increases would require detailed hydrogeologic study.

The Town of Natick derives its water supply from a system of three wellfields, two of which are located adjacent to Lake Cochituate and one adjacent to Pickerel Pond. The two wellfields adjacent to Lake Cochituate, namely the Evergreen and Springdale well systems, supply approximately 95% of Natick's water requirements. The remaining well system, Pine Oaks, located northwest of Pickerel Pond, supplies the remaining 5% of the town's current water use and is generally used to satisfy peak demand periods.

Although neither Lake Cochituate or Pickerel Pond is used as a surface water source, these surface waters do provide natural recharge of the aquifers in which the town's wells are located. The water quality of Lake Cochituate is of primary concern since it serves to recharge the aquifers which supply 95% of the town's water. The Evergreen wells have had sodium levels of up to 40 mg/l, exceeding state drinking water health advisory levels.

The water quality criteria for chloride in drinking water is 250 mg/l. While no specific surface water quality standard has been promulgated for sodium, and there are no Federal drinking water standards, Massachusetts has adopted a health advisory limit of 20 mg/l for drinking water supplies.

The estimated increase in the average sodium level in Lake Cochituate due to the Turnpike widening project is 0.6 mg/l, from an existing average concentration of 29.3 mg/l to an estimated future average concentration of 29.9 mg/l (See Table II). This increase is not considered significant and represents a minor impact on the Town of Natick's water supply.

The Turnpike widening project may have a more significant impact on the average sodium concentration of Pickerel Pond which, in turn, may impact the Pine Oaks wellfield. As shown in Table II, the existing average sodium level of 39 mg/l is estimated to increase to 50 mg/l. To reduce the potential impact on Pickerel Pond, diversion of roadway runoff into Snake Brook was explored; however, there are some undesirable engineering aspects associated with the concept. Therefore, this potential diversion concept is not considered an effective mitigation measure. In addition, dilution provided by the storage and distribution system would reduce the sodium concentration within the water supply system attributed to any estimated impact on the Pine Oaks well.

The Town of Weston Water Commission has been seeking DEQE approval for the proposed Blaney well to reduce their dependence on MDC supplies. Such approval is contingent on the results of hydrogeological tests ordered by DEQE to determine the impact of runoff from the Turnpike on the well. As of this date, the tests have not been conducted and it is not known if the town wishes to pursue approval for this well.

The Authority's general policy and practice for snow and ice control operations is to minimize the use of road salt while maintaining adequate levels of service and safe travel on the Turnpike. Consistent with this policy, and in order to minimize the impact on the environment from the use of deicing chemicals, the Authority annually instructs all employees involved with the snow and ice control procedures. Automated spreading equipment is used by the Authority to precisely measure and control application rates. After each storm supervisory personnel closely monitor reports of salt use.

The Authority further adheres to guidelines for deicing chemical application rates resulting from the Generic Environmental Impact Report for Snow and Ice Control Operations (1978). The Authority is participating in an update to the GEIR and participated in the preparation of the original GEIR.

The Authority is also committed to further improving its snow and ice control procedures based on viable new technology and advances in the state-of-the-art. As an example, the Authority is installing remote sensors at several locations along the roadway to provide continuous monitoring of actual road conditions during storms. This is seen to be an aid in dispatching equipment and further reducing salt use.

Strict adherence to the Authority's snow and ice control procedures and applicable EIR guidelines will continue and will minimize any impacts on water quality resulting from this project.

It is concluded that there would be no significant impacts on surface water or groundwater quality attributed to the project. The project will not result in any surface water standards or primary drinking water standards being exceeded. With regard to sodium concentrations, for which the State has adopted a health advisory limit of 20 mg/l, a minor increase in the Natick water supply may occur due to elevated concentrations in the Pine Oaks well and to slightly higher levels projected for Lake Cochituate. The potential increase for Lake Cochituate of 0.6 mg/l is very low compared to the average sodium concentration of 29.3 mg/l and is not considered a major impact on water quality. These impacts on Natick's water supply will be minimized by continued strict adherence to the Authority's snow and ice control program.

TABLE III

AVERAGE WATER QUALITY DATA
June 1977 to June 1979

(Massachusetts DEQE Division of Water Pollution Control)

Parameter	Lake Cochituate (North Basin)	Lake Cochituate (@ I-90 Bridge)	Norumbega Reservoir	Nonesuch Pond*	Snake Brook
pH	7.4	7.4	8.4	7.9	7.2
Total Alkalinity	28.5	22.1	8.6	---	23.9
Total Hardness	42.6	44	11	---	43
Suspended Solids	5.0	2.7	---	---	1.7
Total Solids	158	163	---	---	119
Specific Conductivity (umhos/cm)	260	252	62	650	204
Total Kjeldahl Nitrogen	1.23	0.72	---	0.41	0.62
Ammonia Nitrogen	0.04	0.06	0.16	<0.1	0.07
Nitrite Nitrogen	0.007	0.002	---	---	0.010
Nitrate Nitrogen	0.162	0.23	0.04	---	0.85
Total Phosphorus	0.12	0.038	---	0.022	0.043
Ortho-phosphorus	0.09	0.02	---	---	0.04
Silica	3.22	2.2	2.13	---	9.01
Chloride	52.6	54.2	9.5	97	34
Iron	0.40	0.158	0.03	0.12	0.50
Manganese	0.14	0.04	<0.02	---	0.06
Sodium	---	---	7.9	56	---
Lead	---	---	<0.005	<0.1	---
Cadmium	---	---	<0.005	<0.02	---

* Sampled on April 10, 1986 by JMCA

Appendix D

APPENDIX D - NOISE

MAINLINE WIDENING - INTERCHANGE NOS. 13 TO 14

The proposed mainline widening between Interchange Nos. 13 and 14 would result in an increase in short-term construction (peak) noise levels and insignificant increases in traffic (steady-state) noise levels.

Approximately 80 residences and two churches would be affected by noise from the project. Construction noise would be caused primarily by the engine exhaust of construction equipment. The widening of the ramps and mainline would include the following consecutive phases:

- o Ground clearing
- o Earthwork
- o Erection of structures
- o Finishing including filling, paving, grading and cleanup operations

Several structures would be widened along the mainline between Interchange Nos. 13 and 14. Pile drivers are expected to be used, although their impact on sensitive receptors would be very short-term.

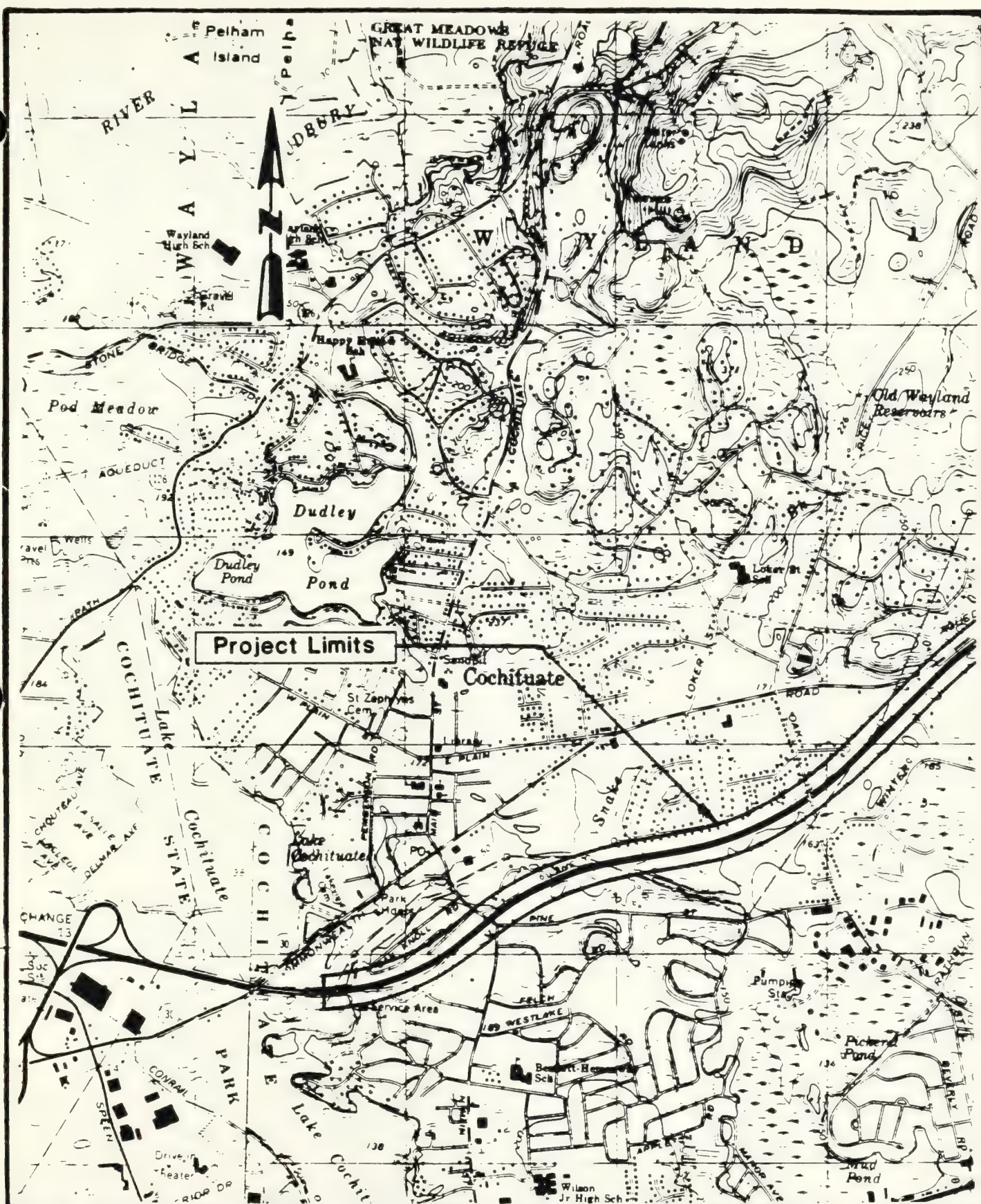
All noise level increases due to construction would, however, be short-term and could be controlled by the use of one or a combination of the following general methods:

- o Installation of noise reduction devices on equipment
- o Enforcing operation time controls
- o Use of alternative, quieter equipment
- o Use of shielding or screening devices on or around equipment

The increase in traffic noise, between the build and no-build condition, at the 82 sensitive receptors is determined by the change in traffic, speed and the distance between the source (roadway) and receiver (residence). No change in traffic or speeds is expected as a result of the proposed improvement. South of the turnpike, along the right-of-way, are located approximately 26 residences, the Church of Christ and the Faith Baptist

Church. Several receptors are less than 100 feet from the existing edge of pavement, although the majority are between 100 and 200 feet or more from the roadway edge. Noise level increases due to traffic from the mainline widening would be less than one decibel. The increase is insignificant and unnoticeable in the natural environment.

Approximately 54 residences are located north of the turnpike along the right-of-way. Numerous receptors are between 50 and 100 feet from the existing roadway. The other receptors are between 100 and 150 feet from the roadway. Noise level increases would not exceed one decibel. The impact would be insignificant and unnoticeable.



Mass. Turnpike Authority

Mainline Widening
Interchange 13 To Interchange 14

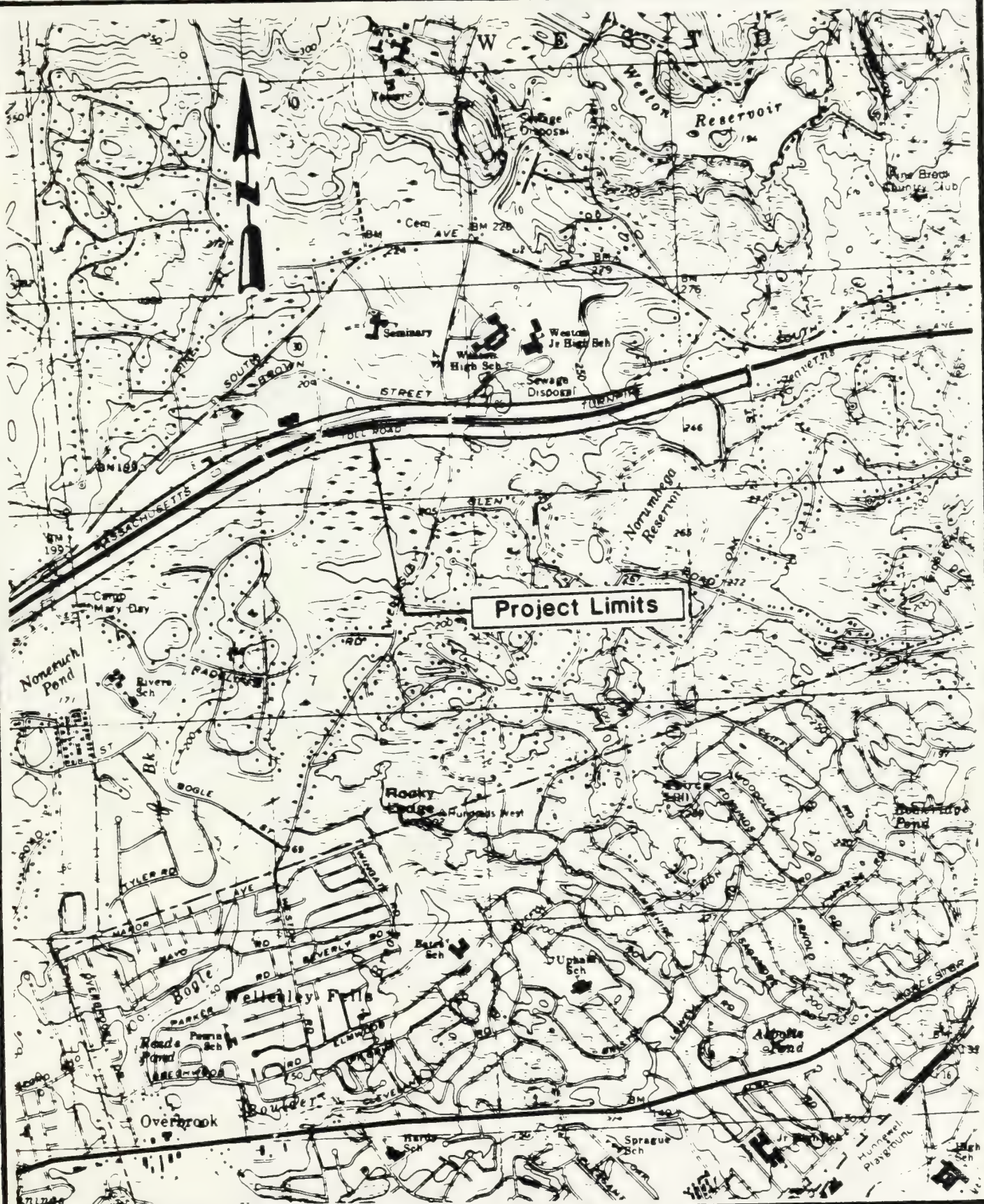
Framingham, Natick, Wayland & Weston, Mass.

Scale: 1" = 2083'

LOCATION MAP

Natick, Mass. and
USGS QUAD: Framingham, Mass.

Fig. 1



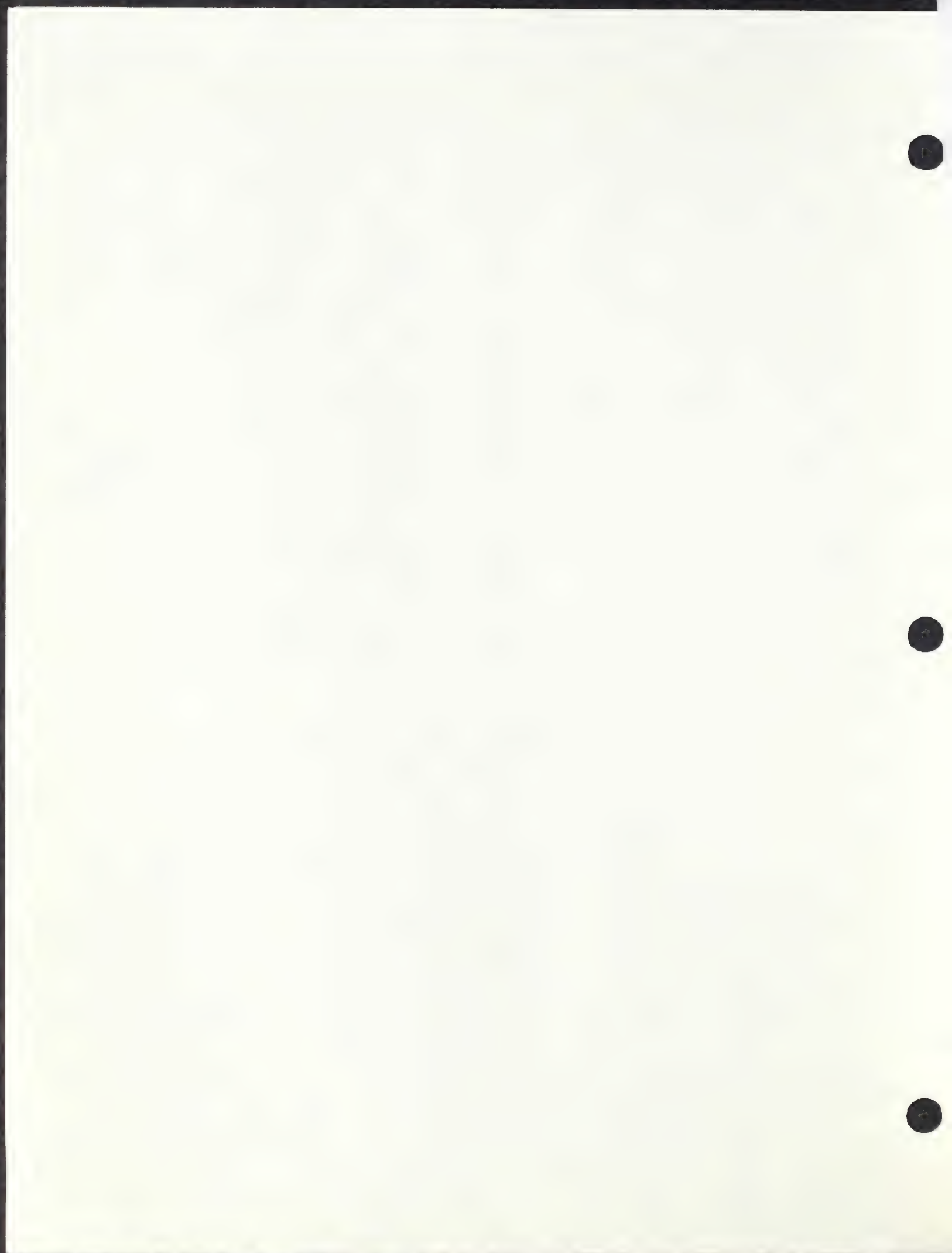
Mass. Turnpike Authority

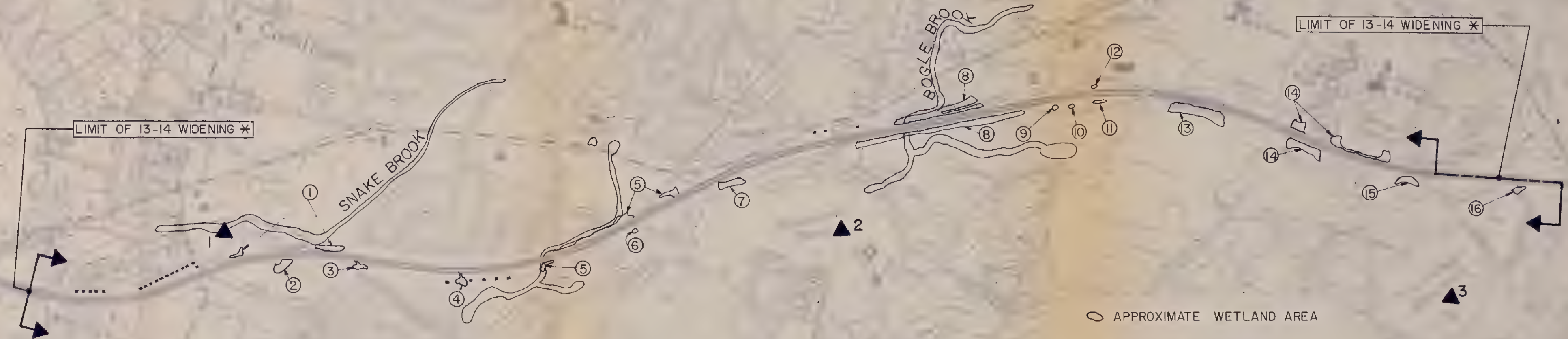
Mainline Widening
Interchange 13 To Interchange 14
Framingham, Natick, Wayland & Weston, Mass.
Scale 1" = 2083'

LOCATION MAP

USGS QUAD: Natick, Mass.

Fig. 2





○ APPROXIMATE WETLAND AREA

① WETLAND AREA NUMBER
REFERRED TO IN ENF RESPONSES

* ASSUMES WIDENING AT
INTERCHANGES 13 AND 14 IS COMPLETE

▲ WATER QUALITY MODELLING LOCATION

MASSACHUSETTS TURNPIKE AUTHORITY MASSACHUSETTS TURNPIKE	
MAINLINE WIDENING INTERCHANGE 13 TO 14	
Scale: 1" = 1,000'	Contract No.
HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	
FIG 3	

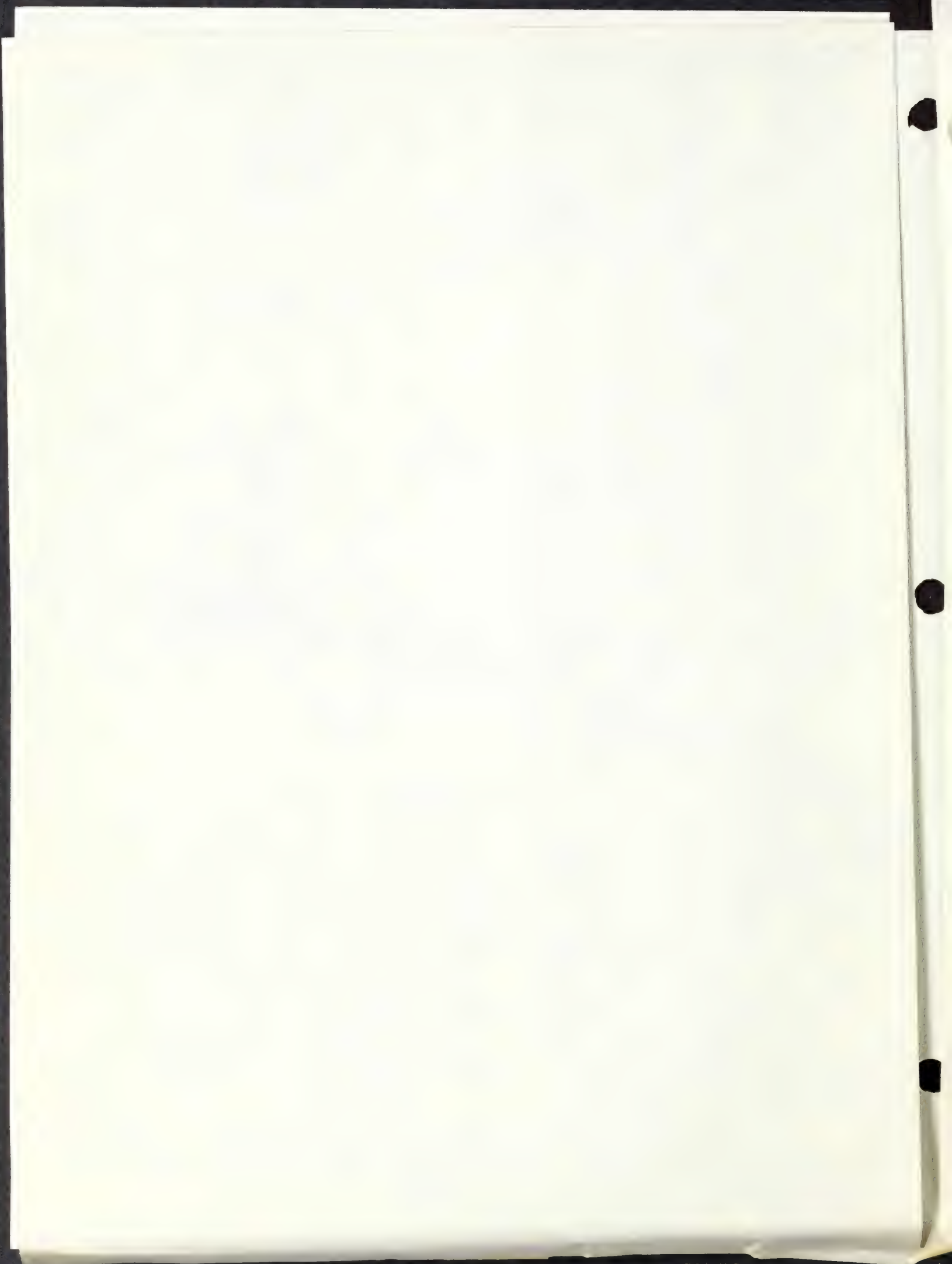


FIGURE 4

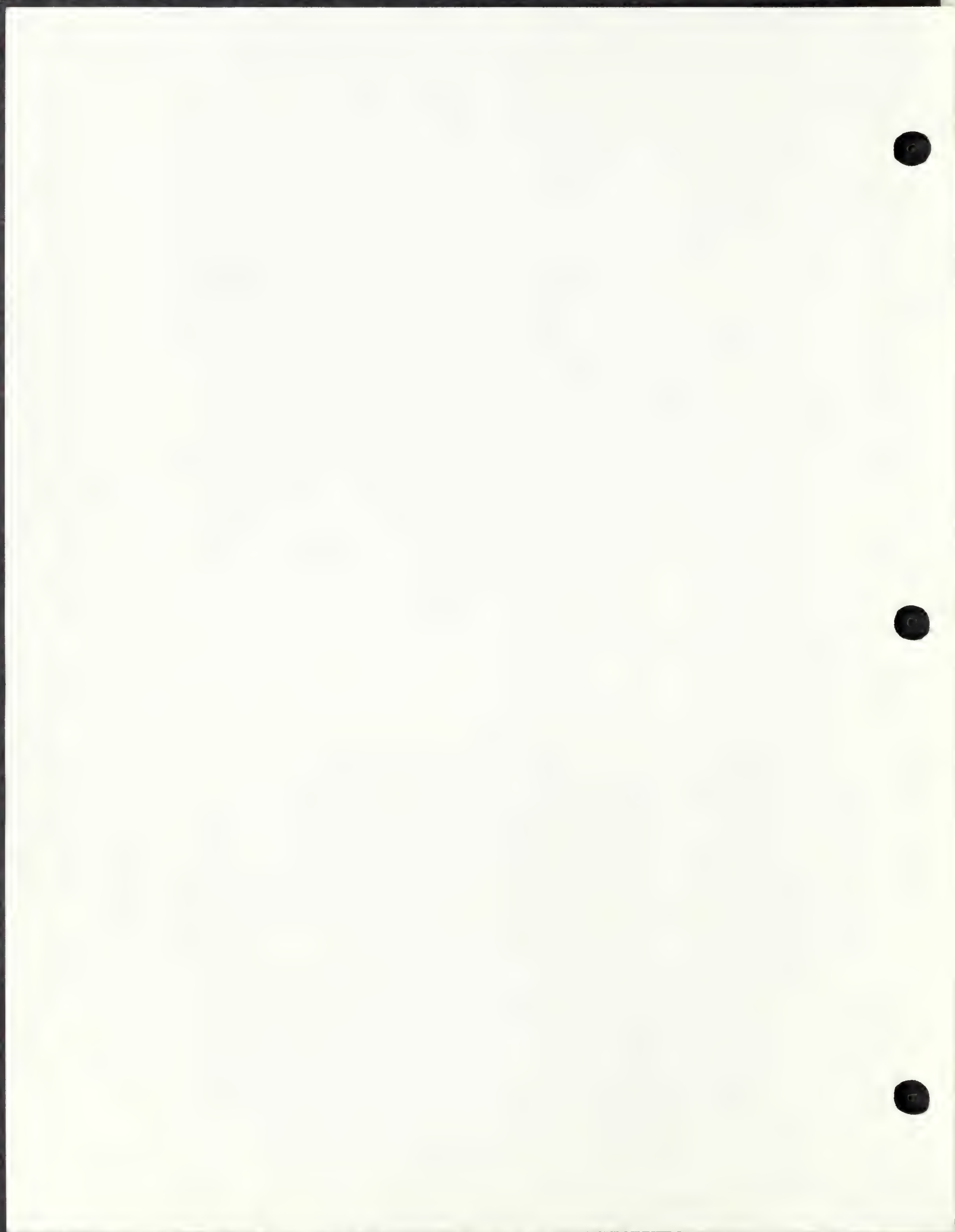
MAINLINE WIDENING INTERCHANGES 13 - 14



WETLAND AREA 2 - Turnpike Eastbound - looking east



WETLAND AREA 5 - Turnpike Westbound - looking east

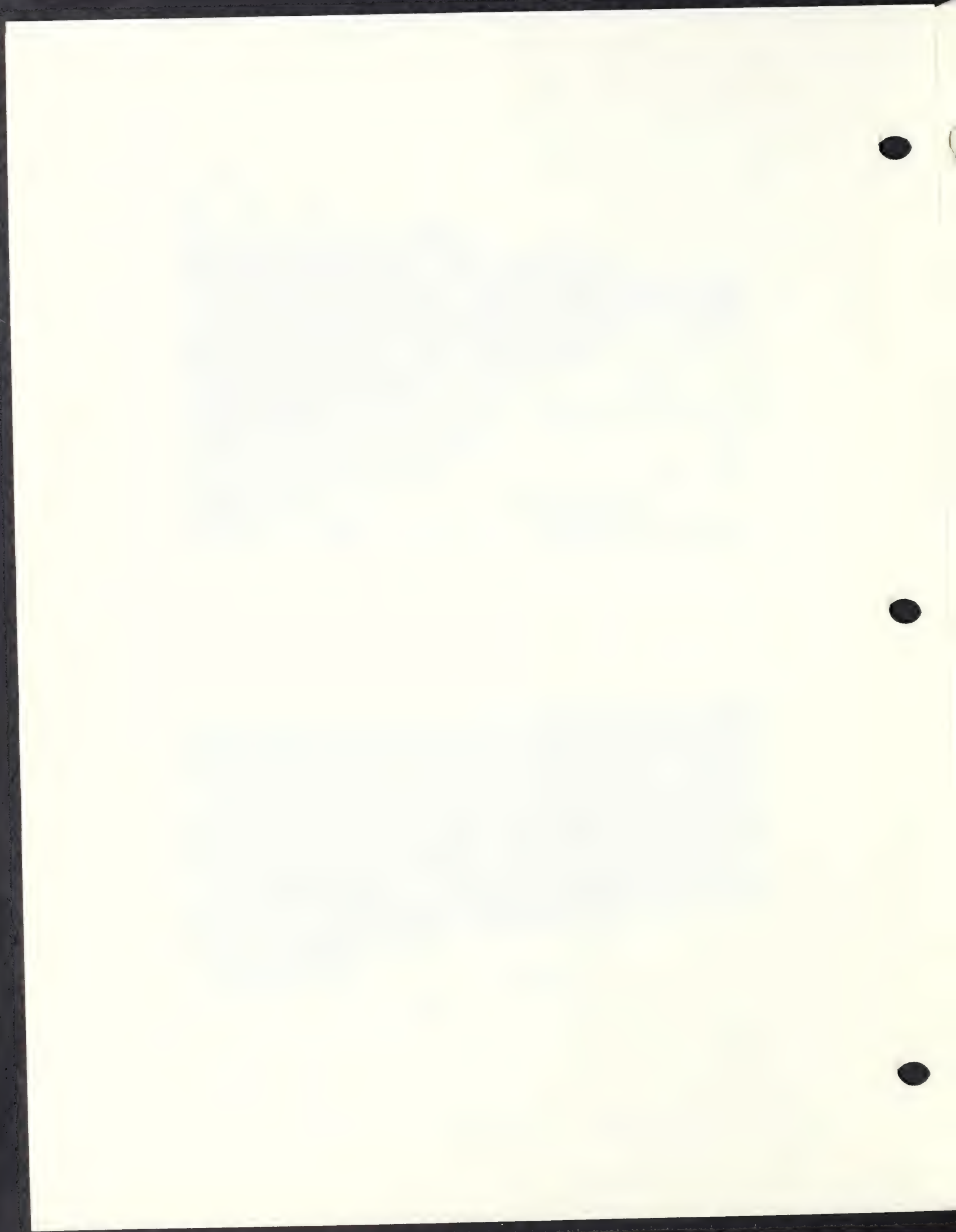




WETLAND AREA 5 - Turnpike Eastbound - looking east



WETLAND AREA 6 - Turnpike Eastbound - looking east

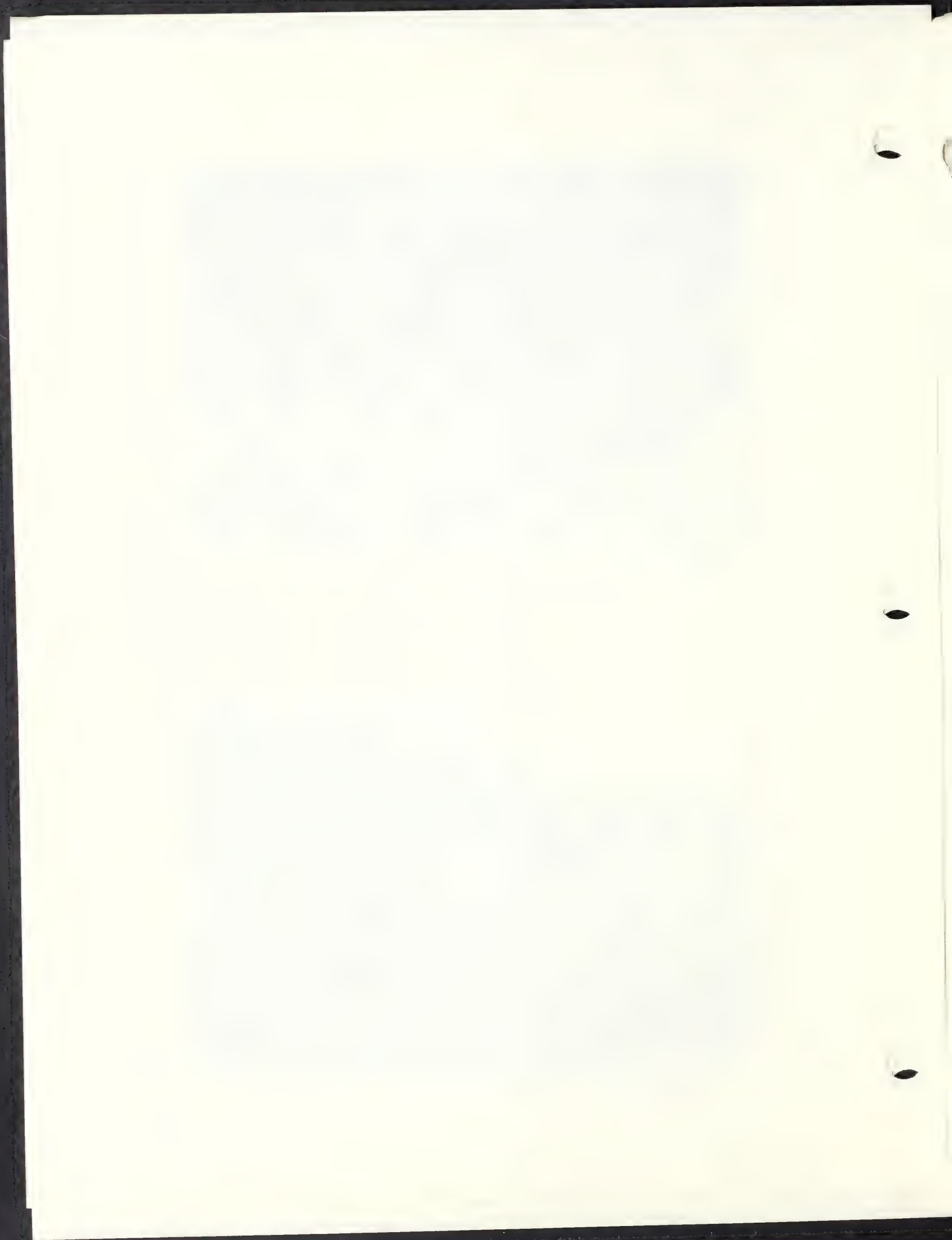




WETLAND AREA 8 - Turnpike Eastbound - looking west at brook



WETLAND AREA 8 - Turnpike Eastbound - looking east





WETLAND AREA 8 - Turnpike Westbound - looking west



WETLAND AREA 13 - Turnpike Eastbound

1

2

3



WETLAND AREA 14 - Turnpike Eastbound - looking east



WETLAND AREA 15 - Turnpike Eastbound - looking east





**APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS**

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification

1. Project Name Mass. Turnpike Interchange 14
Widen Ramps to and from the West
2. Project Proponent Mass. Turnpike Authority
Address 688 South Avenue, Weston, MA 02193

B. Project Description: (City/Town(s)) Weston

1. Location within city/town or street address Mass. Turnpike westbound on and off ramps
at Interchange 14 (Mile 123.12)
2. Est. Commencement Date: April 1987 Est. Completion Date: December 1987
Approx. Cost \$ 4,900,000 Current Status of Project Design: 5 % Complete

C. Narrative Summary of Project

Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

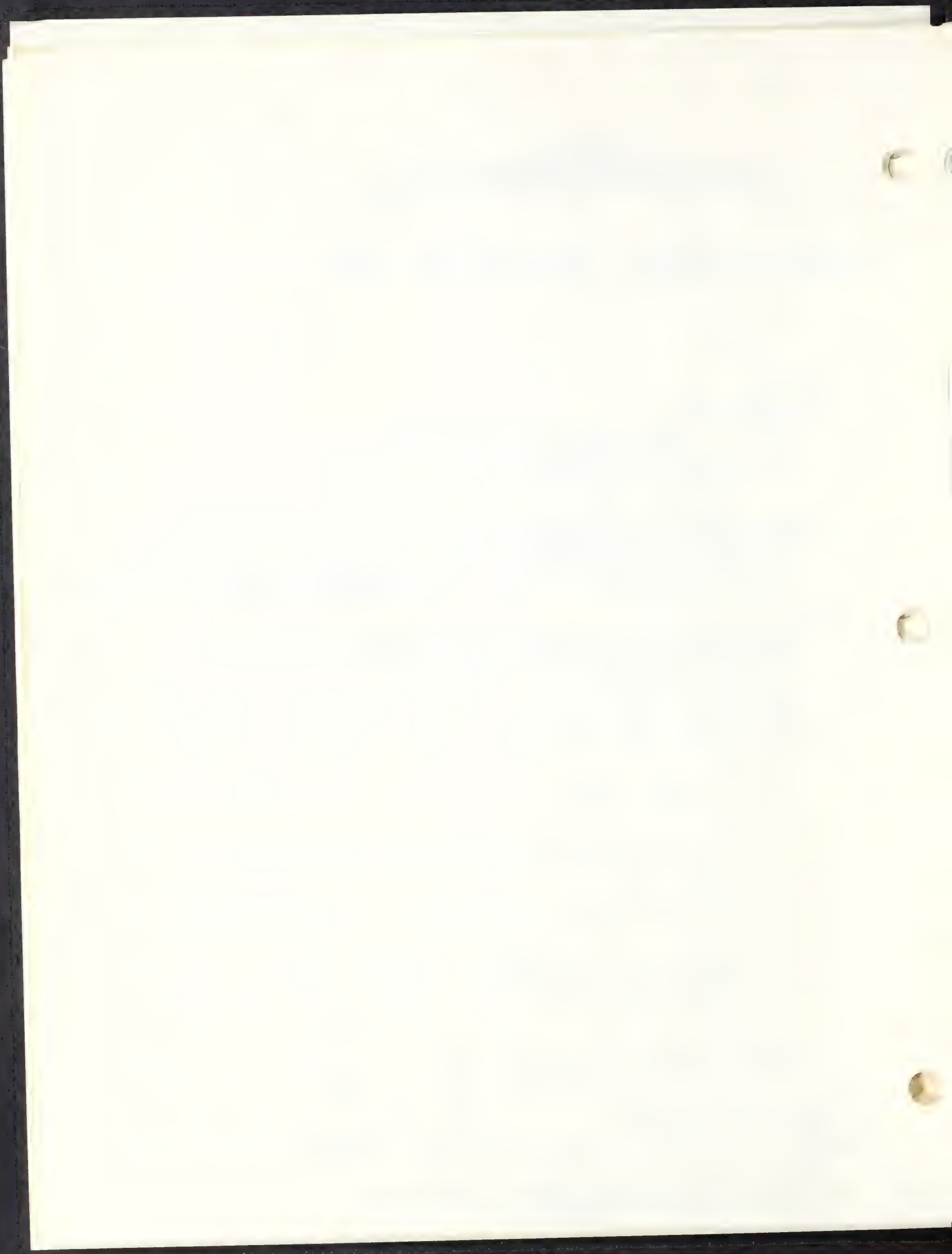
The project involves widening from two to three lanes the existing ramps connecting the Turnpike to the toll plaza at Interchange 14. Auxiliary lanes will also be widened to provide safe movement of traffic to and from the wider ramps. Figures 1 and 2 show the project area. Specifically, the proposed work includes the following elements:

- o relocation of the existing eastbound exit ramp including a new bridge over Ridgeway Road;
- o widening 1500' of the existing ramp including the 4-span bridge over the Turnpike and the concrete bridge over the MDC aqueduct;
- o widening 3000' of the eastbound approach lane including the existing concrete bridge over the MDC aqueduct and two culverts for Seaverns Brook;
- o widening 8200' of the westbound on-ramp and mainline to create a new truck climbing lane, including two concrete bridges over the MDC aqueduct, the existing bridge over Ridgeway Road, and two culverts for Seaverns Brook.

All work will be within the Turnpike right-of-way adjacent to the existing facilities. Note that the ENF on the 11A/12 Barrier Toll facility submitted concurrently includes operational changes at Interchange 14.

Copies of this may be obtained from:

Name: John N. Grim Firm/Agency: Mass. Turnpike Authority
Address: 668 South Avenue, Weston, MA 02193 Phone No. 237-3250



Use This Page to Complete Narrative, if necessary.

This interchange widening project will improve safety for westbound traffic by adding a truck climbing lane starting at the interchange to carry the slower-moving traffic up the hill, and for eastbound traffic by improving the geometry of the Exit 14 ramp as well as widening for increased capacity.

The project is required to alleviate inadequate capacity on the ramps for existing traffic volumes. The project will improve safety and facilitate traffic movements through the interchange. In addition, widening of the bridge structures will facilitate maintenance of two-way traffic during bridge deck replacement operations. The Mainline widening portion of this project is part of the original phased construction plan for the Turnpike.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report: YES _____ NO X

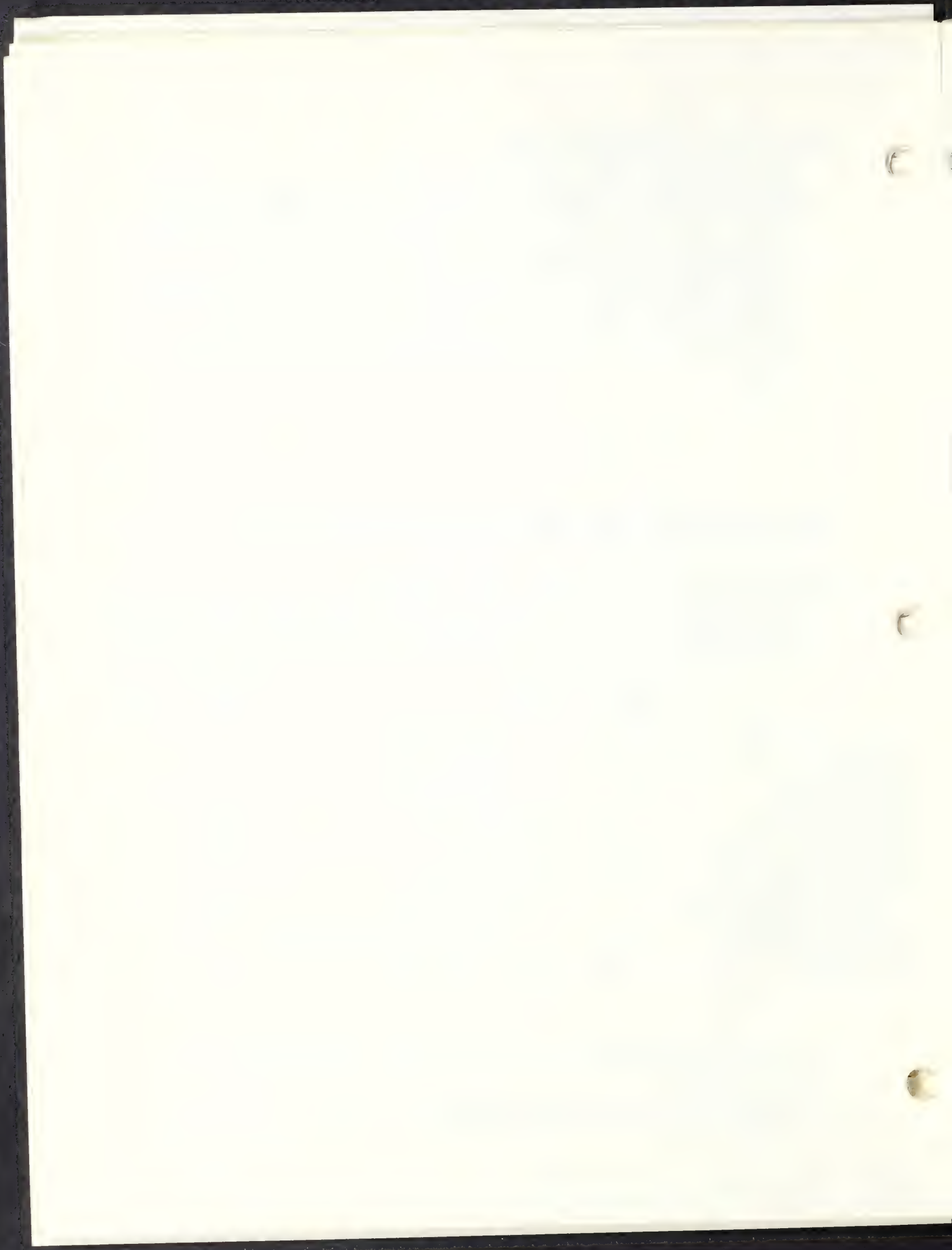
D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts	Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	_____	_____	_____	_____
Historical	_____	_____	_____	_____
Archaeological	_____	_____	_____	_____
Fisheries & Wildlife	_____	_____	_____	_____
Vegetation, Trees	_____	_____	_____	_____
Other Biological Systems	_____	_____	_____	_____
Inland Wetlands	<u>X</u>	<u>X</u>	<u>X</u>	_____
Coastal Wetlands or Beaches	_____	_____	<u>X</u>	_____
Flood Hazard Areas	_____	_____	_____	_____
Chemicals, Hazardous Substances, High Risk Operations	_____	_____	_____	_____
Geologically Unstable Areas	_____	_____	_____	_____
Agricultural Land	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____
		Mineral Resources	_____	_____
		Energy Use	_____	_____
		Water Supply & Use	_____	_____
		Water Pollution	<u>X</u>	_____
		Air Pollution	_____	_____
		Noise	<u>X</u>	_____
		Traffic	<u>X</u>	_____
		Solid Waste	_____	_____
		Aesthetics	_____	_____
		Wind and Shadow	_____	_____
		Growth Impacts	_____	_____
		Community/Housing and the Built Environment	_____	_____

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

The proposed project is considered the only feasible alternative that will accommodate the existing and projected increase in traffic volumes at this interchange.



P. 3

E. Has this project been filed with EOE before? Yes _____ No X
If Yes, EOE No. _____ EOE Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name

Type of Permit

None known, however the following may be required:

U.S. Army Corps of Engineers
Mass. DEQE

Sec. 10/404 permit
Water Quality Certificate

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
Yes X No _____

DEQE File No., if applicable: _____

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name

Funding Amount

None

II. PROJECT DESCRIPTION

A. Include an original 8½ x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: approx. 30 acres

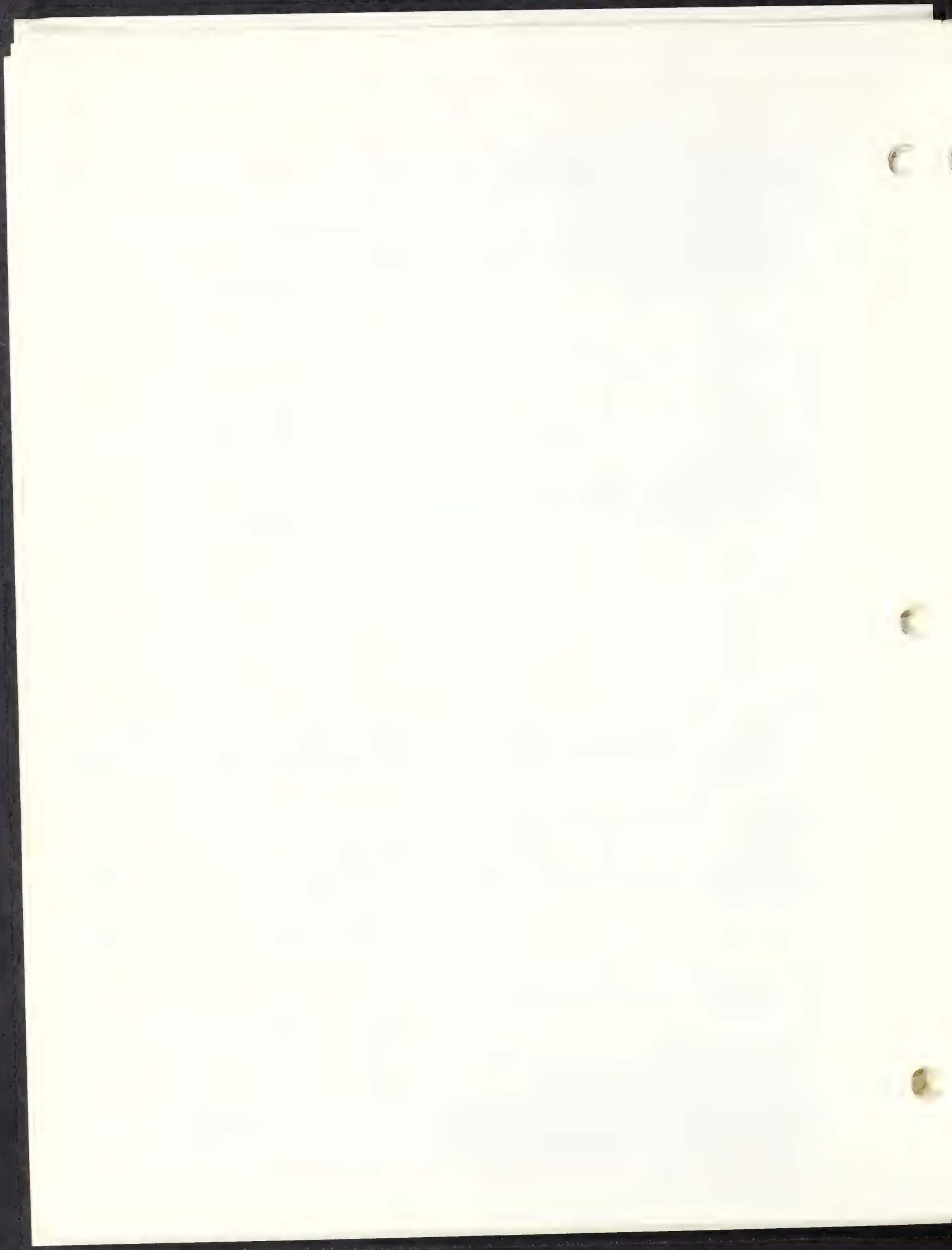
Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed	<u>29.1</u> acres	4. Floodplain	<u>0.5</u> acres
2. Open Space/Woodlands/Recreation	<u>0.3</u> acres	5. Coastal Area	_____ acres
3. Wetlands	<u>0.1</u> acres	6. Productive Resources	
		Agriculture	_____ acres
		Forestry	_____ acres
		Mineral Products	_____ acres

C. Provide the following dimensions, if applicable:

Length in miles	Number of Housing Units	Number of Stories
	Existing	Immediate Increase Due to Project
Number of Parking Spaces	_____	_____
Vehicle Trips to Project Site (average daily traffic)	_____	_____
Estimated Vehicle Trips past project site	<u>42,000</u> vpd	<u>0</u>

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection.



III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

The area where construction is proposed is not considered an open space or recreation area. The proposed project will not affect the condition, use or access to any open space or recreation area.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

There are no properties of historic significance in the vicinity of the project which would be affected by the proposed activities.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

No archeological sites are mapped by the Mass. Historic Commission in the vicinity of the project.

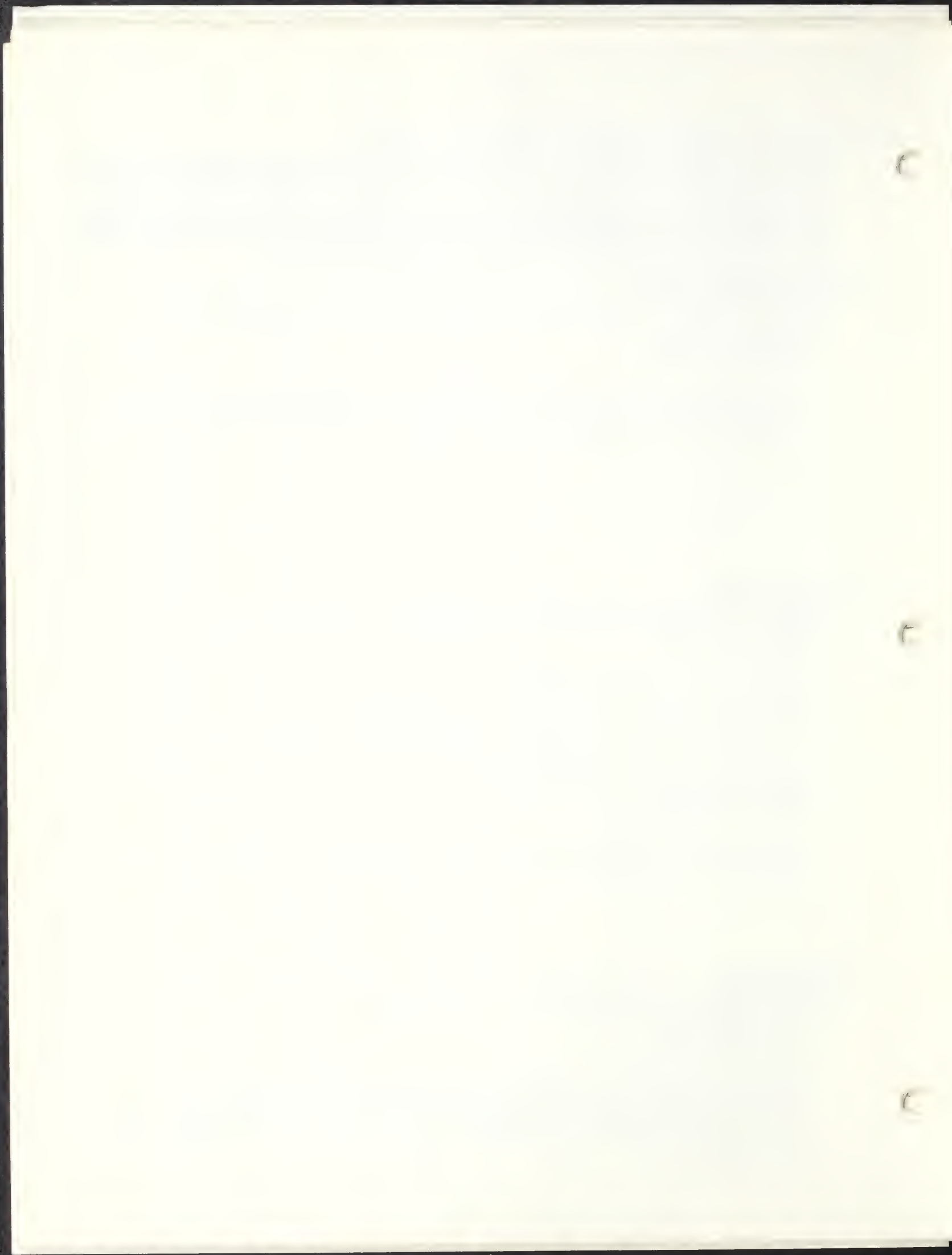
C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The proposed project is anticipated to have no significant impacts on wildlife or fisheries. Some habitat loss will occur, causing displacement of some wildlife species. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered species in the vicinity of the project area (Appendix A).



2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: _____)

Explanation and Source:

Field investigations indicate that the majority of the area which will be disturbed consists of the mowed Turnpike right-of-way. Some natural vegetation, typical of the region, will also be impacted. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered plant species or communities in the vicinity of the project area.

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes X No _____

Explanation and Source:

Field investigations indicate that four (4) wetland areas occur within the project limits. These include natural wetlands as well as vegetation in man-made ditches. Approximately 7000 sq. ft. of vegetated wetlands, of which 6500 sq. ft. are in man-made ditches, will be disturbed during project implementation. Appendix B provides a complete description of existing wetlands and potential impacts. Approximately 0.5 acres of land mapped by the Federal Emergency Management Agency as 100-year floodplain are located in the project area, however no floodplain impact would result.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

The project will not affect shoreline erosion or accretion.

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The areas where construction is proposed are not considered geologically unstable.

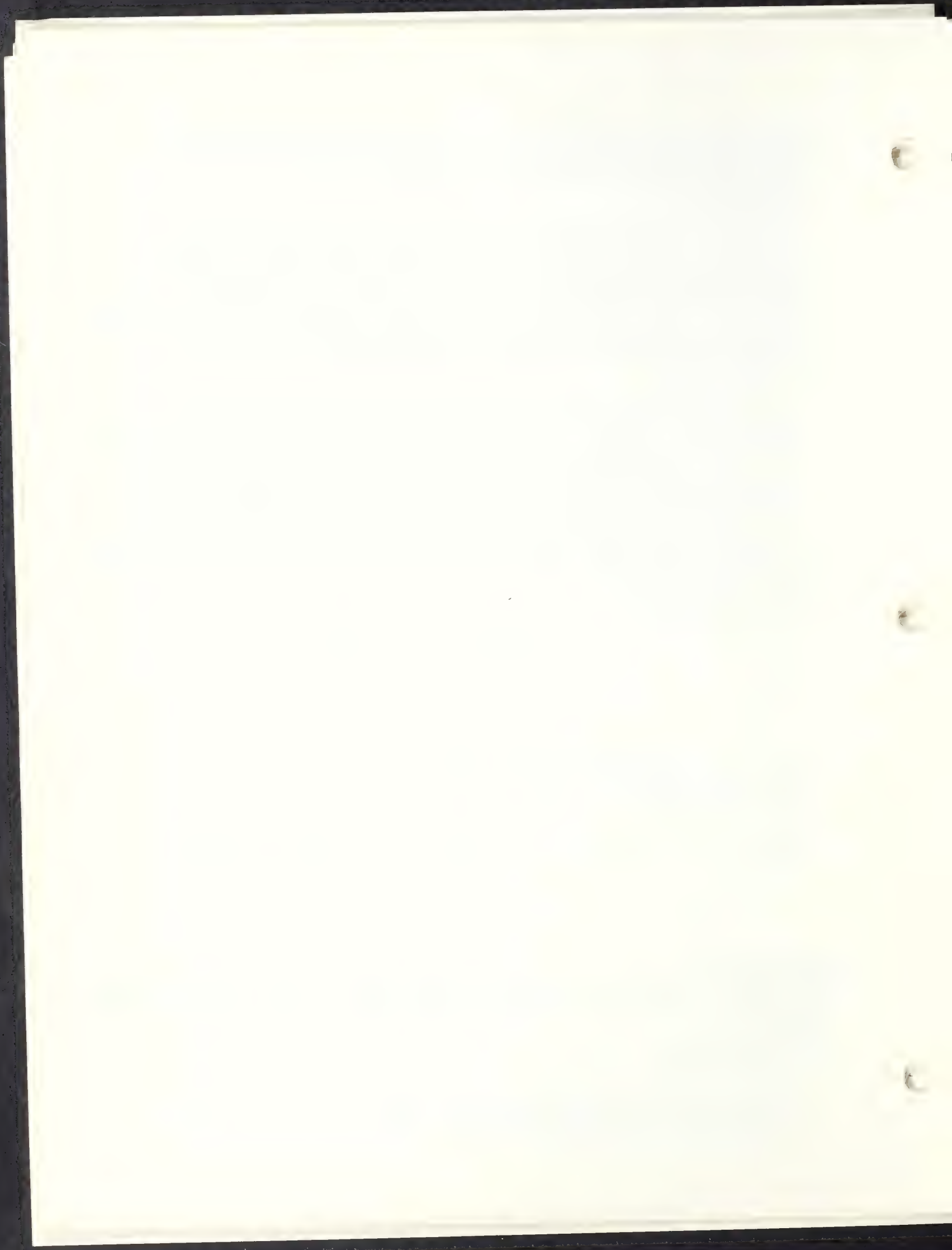
D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

This project will not affect the transport of any hazardous substances which may currently be occurring on the Turnpike. The project does not involve the storage, release, use or disposal of potentially hazardous substances.



E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The land within the project area is not considered viable for agricultural or forestry production.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No X

Explanation and Source:

There are no known mineral or energy resources within the project area.

3. Might the operation of the project result in any increased consumption of energy? Yes _____ No X

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

The completed project will not result in any increased consumption of energy and will reduce energy use for vehicles using the facility due to more efficient traffic flows. As with any construction activity there will be energy consumption during the construction process.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No X

Explanation and Source:

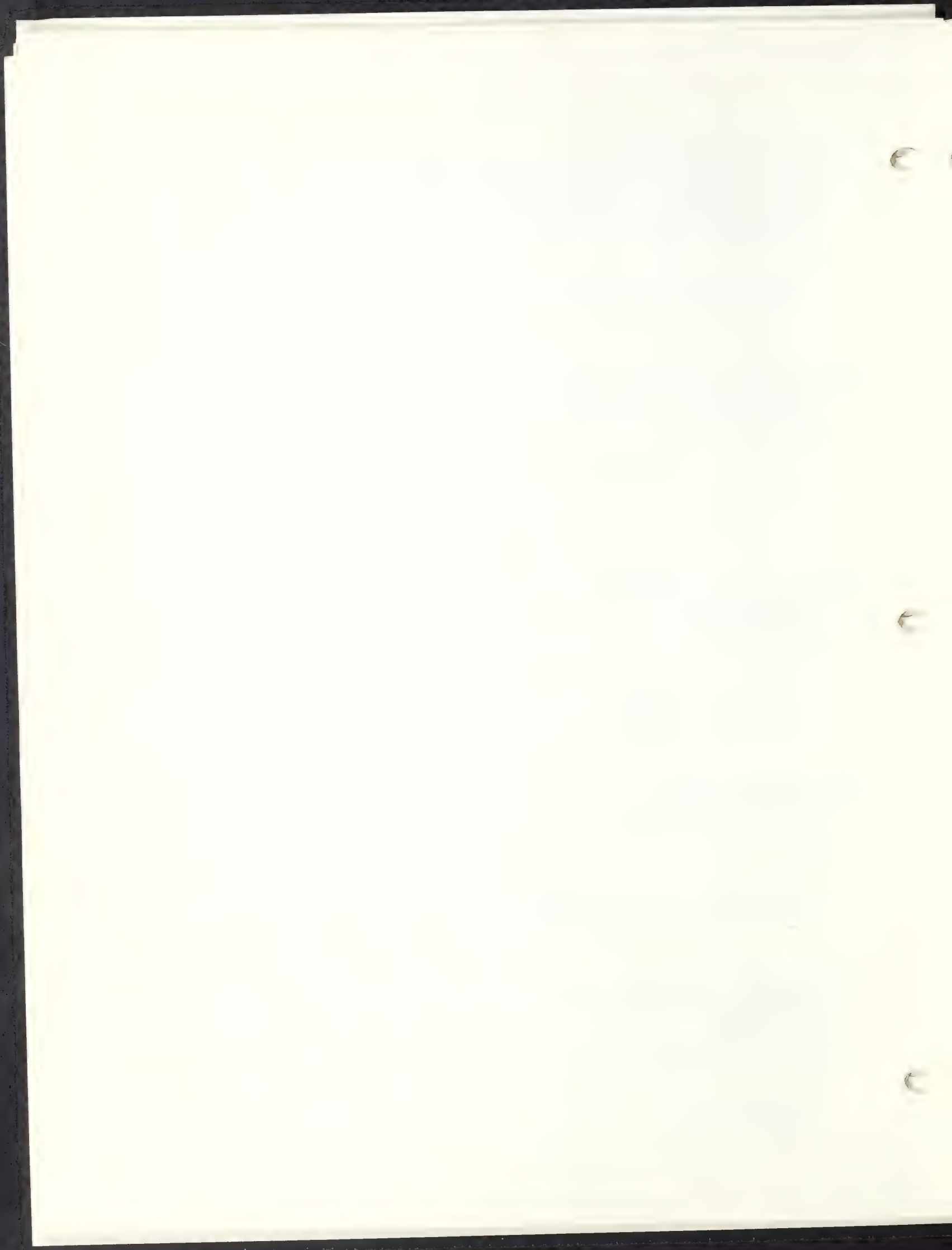
The proposed roadway widening requires that several existing drainage ditches and culverts be relocated. The proposed project will not result in any significant changes to natural drainage systems.

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes <u>X</u>	No _____
(c) Ground Water	Yes <u>X</u>	No _____

Explain types and quantities of pollutants.

See Appendix C.



3. Will the project generate sanitary sewage? Yes _____ No X

If Yes, Quantity: _____ gallons per day

Disposal by: (a) Onsite septic systems Yes _____ No _____

(b) Public sewerage systems Yes _____ No _____

(c) Other means (describe) _____

Not applicable.

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes _____ No X

Explanation and Source:

A large portion of the project area is underlain by a highly productive but contaminated aquifer associated with the Charles River. The project will involve a relatively small increase in the paved area over this aquifer. The aquifer is no longer in use, due to contamination.

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes _____ No X

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes X No _____

Explanation and Source:

The project does not lie in the watershed of a surface water supply. There are no operating wells within 1/2 mile from the site. However, there are four wells within 1/2 mile that were abandoned due to contamination from sodium chloride, and other constituents.

6. Might the operation of the project result in any increased consumption of water? Yes _____ No X

Approximate consumption _____ gallons per day. Likely water source(s) _____

Explanation and Source:

The proposed project does not involve water consumption.

7. Does the project involve any dredging? Yes _____ No X

If Yes, indicate:

Quantity of material to be dredged _____

Quality of material to be dredged _____

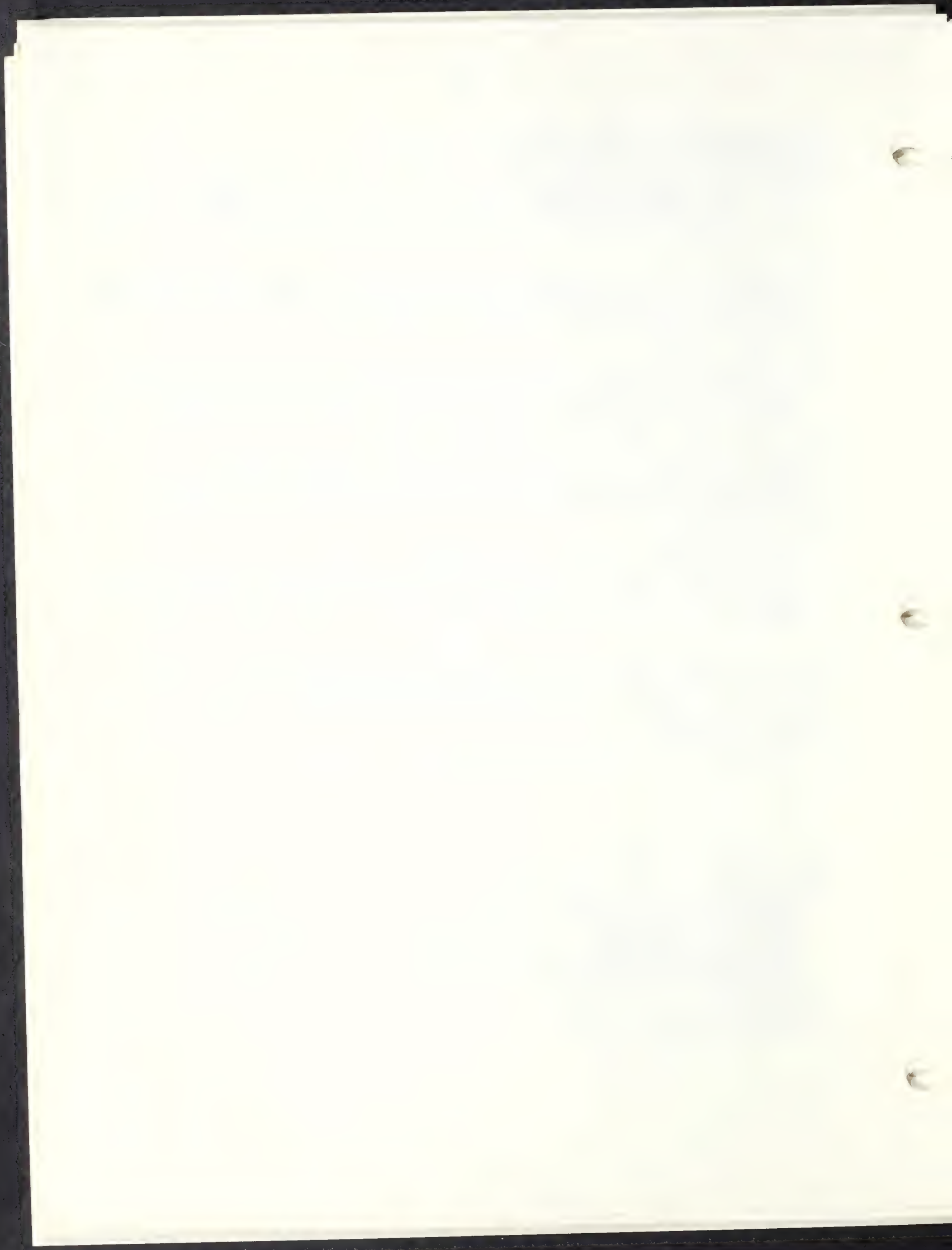
Proposed method of dredging _____

Proposed disposal sites _____

Proposed season of year for dredging _____

Explanation and Source:

The proposed project does not involve any dredging.



G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?

Yes ☒ No ☐

Describe type and source of any pollution emission from the project site. _____

The construction of the proposed project would have two major short-term effects: an increase in emissions caused by construction equipment and an increase in dust maintained in suspension by construction activity. Construction vehicles will emit carbon monoxide, hydrocarbons, oxides of nitrogen and particulates. Long-term ambient air concentrations will not be significantly altered by the operation of construction vehicles or by the traffic from the project, although the emissions associated with existing traffic congestion would be alleviated by improved traffic flow.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes
- ☒
- No
- ☐

Explanation and Source:

Approximately 19 residences are located north of the turnpike from just west of Oak Street to just west of Park Road. All residences would be affected by short-term construction activities, but not by long-term air quality levels caused by the project. The increased dust (particulate) levels will be the largest component of the short-term impacts and of the greatest annoyance to nearby residents. Dust emissions will vary depending on the level of activity, type of operations and weather conditions. The most common dust control techniques include watering, chemical stabilization and vehicle speed reduction.

3. Will access to the project area be primarily by automobile? Yes
- ☒
- No
- ☐

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

Not applicable to this highway project. No special provisions are planned for the construction activity.

H. Noise

1. Might the project result in the generation of noise? Yes
- ☒
- No
- ☐

Explanation and Source:

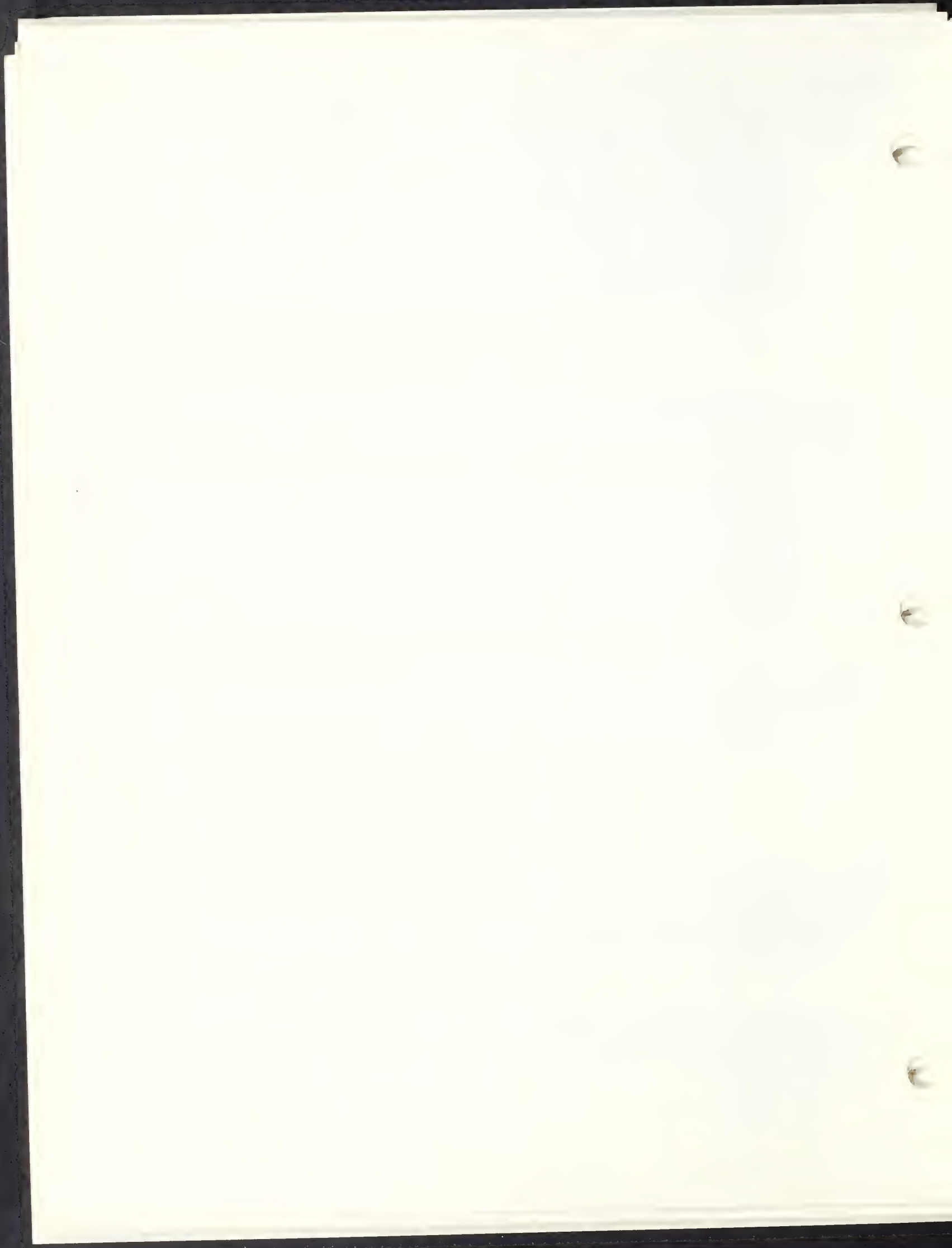
(Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

See Appendix D.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes
- ☒
- No
- ☐

Explanation and Source:

See Appendix D.



I. Solid Waste

1. Might the project generate solid waste? Yes ☒ No ☐

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

The proposed roadway widening project will generate a limited amount of solid waste in the form of construction debris. Existing bituminous concrete pavement, guard rails, light fixtures and other miscellaneous items will be removed and disposed of in a suitable landfill as a part of the project.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs?

Yes ☐ No ☒

Explanation and Source:

The proposed new highway lanes will resemble the existing Turnpike facilities.

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use?

Yes ☐ No ☒

Explanation and Source:

The proposed facilities will be compatible with those in the vicinity of the work.

3. Might the project impair visual access to waterfront or other scenic areas? Yes ☐ No ☒

Explanation and Source:

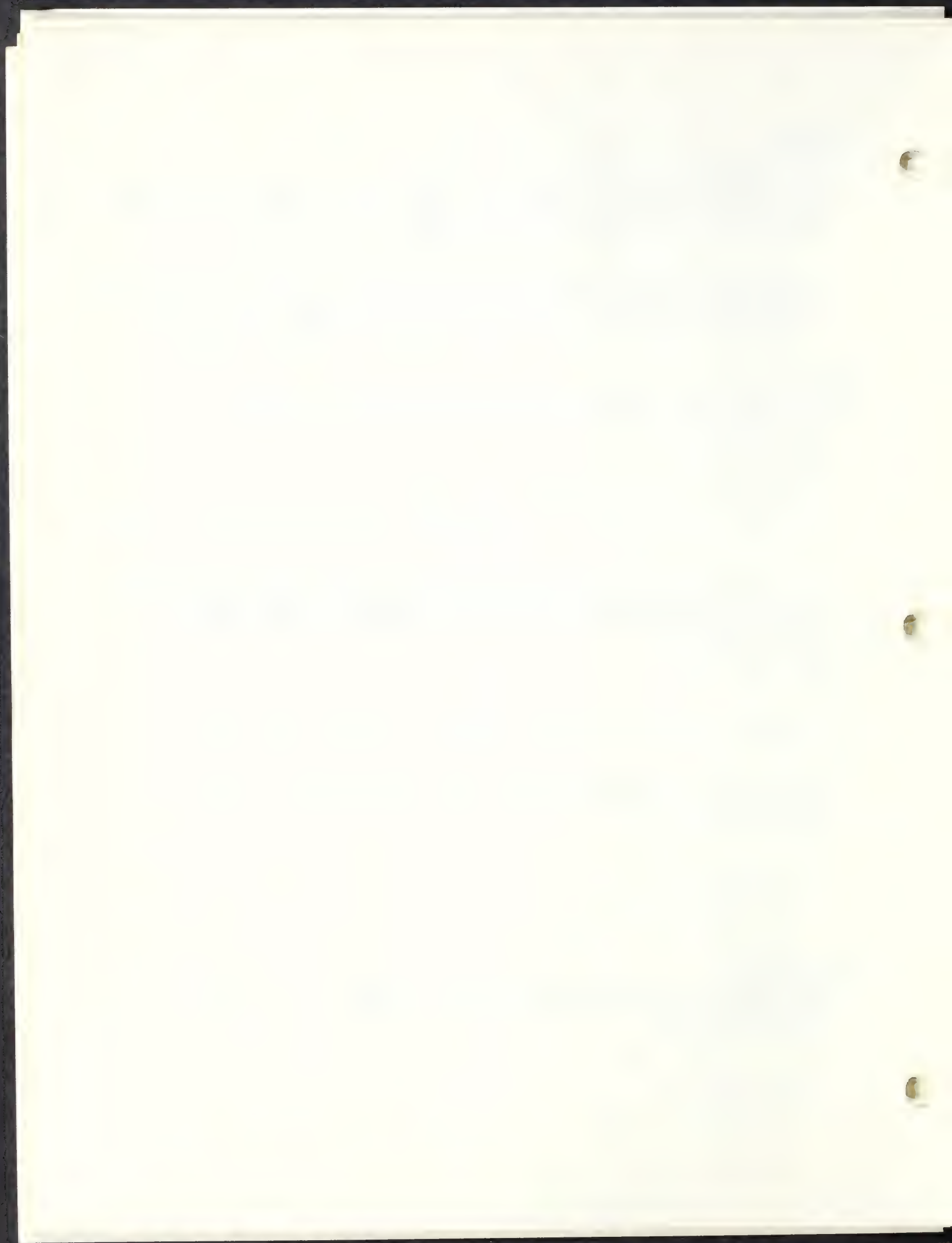
Not applicable.

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes ☐ No ☒

Explanation and Source:

Not applicable.



V. CONSISTENCY WITH PRESENT PLANNING

- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The proposed interchange widening is being done in accordance with the Turnpike Authority's current plan to upgrade and modify the existing toll collection system and to widen and improve interchange ramps and a section of the Mainline. This program will significantly enhance traffic operations and safety on the Turnpike.

V. FINDINGS AND CERTIFICATION

- A. The notice of intent to file this form has been/will be published in the following newspaper(s):

(Name) Boston Globe (Date) week of July 7 (est.)
Wayland-Weston Town Crier July 9 - July 17 (est.)

- B. This form has been circulated to all agencies and persons as required by Appendix B.

June 23, 1986

Date

John N. Grim
 Signature of Responsible Officer
 or Project Proponent

John N. Grim
 Name (print or type)

Address Mass. Turnpike Authority
668 South Avenue, Weston, MA 02193
 Telephone Number 237-3250

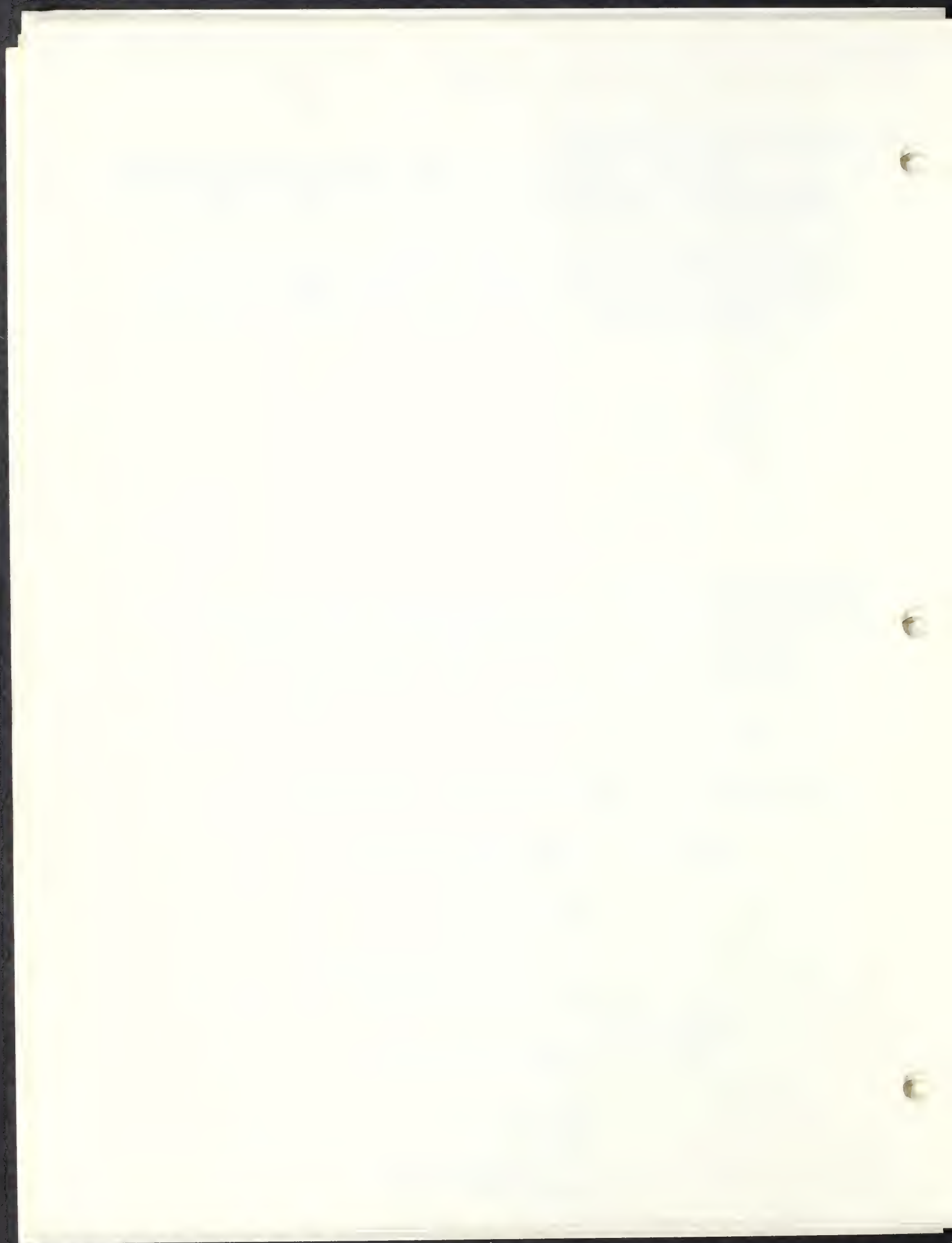
June 23, 1986

Date

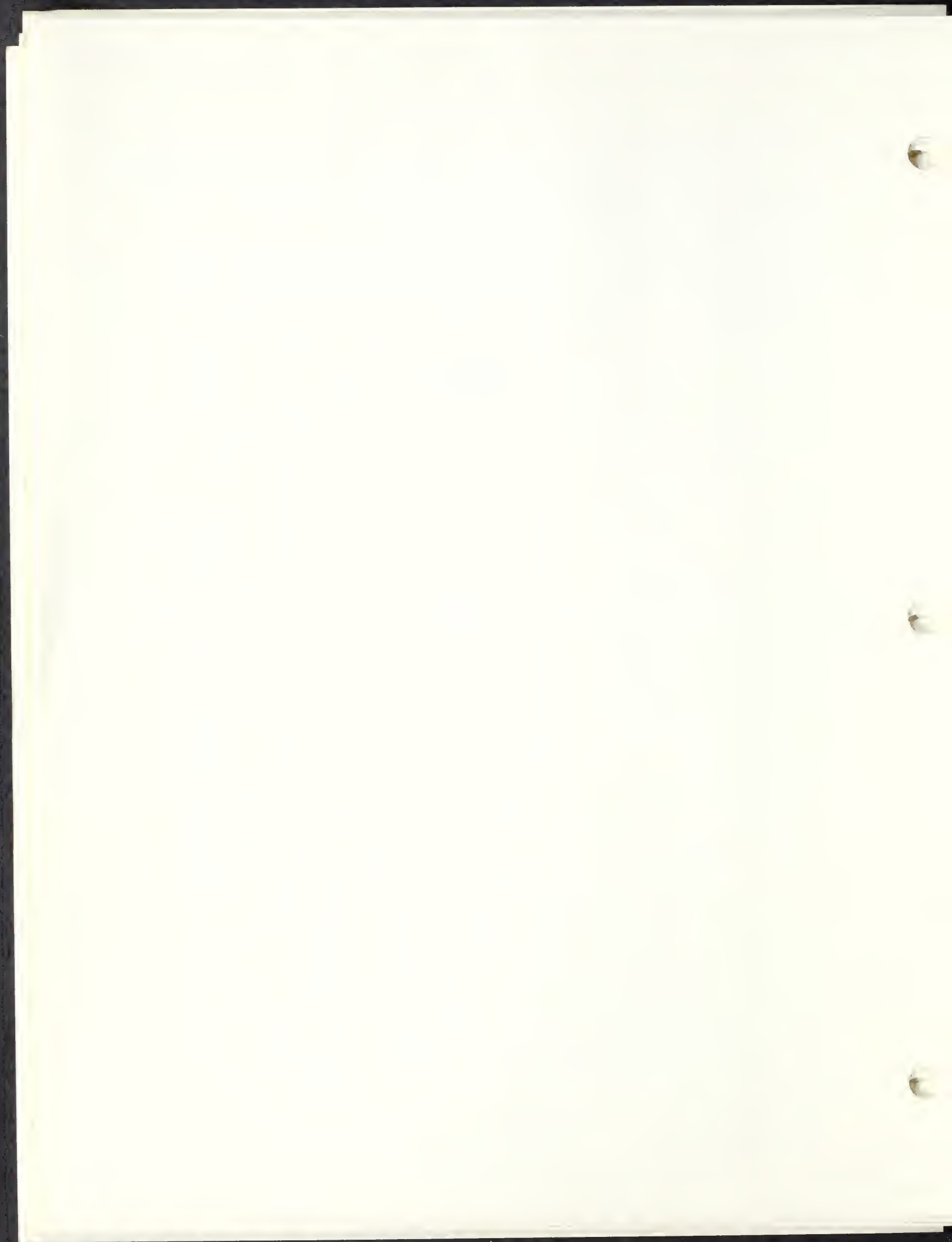
Gary W. Walsh
 Signature of person preparing
 ENF (if different from above)

Gary W. Walsh
 Name (print or type)

Address HNTB, Suite 4200, Prudential Center
Boston, MA 02199
 Telephone Number 267-6710



Appendix A





Massachusetts
Natural Heritage
Program

April 16, 1986

Ms. Amy Hogeland
Jason Cortell & Assoc.
144 Second Ave.
Waltham, MA 02154

RE: Massachusetts Turnpike Improvements

Dear Ms. Hogeland,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant communities in the vicinity of the proposed improvements to the Massachusetts Turnpike, as referenced in your letter of April 11, 1986.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities which would be affected by this project.

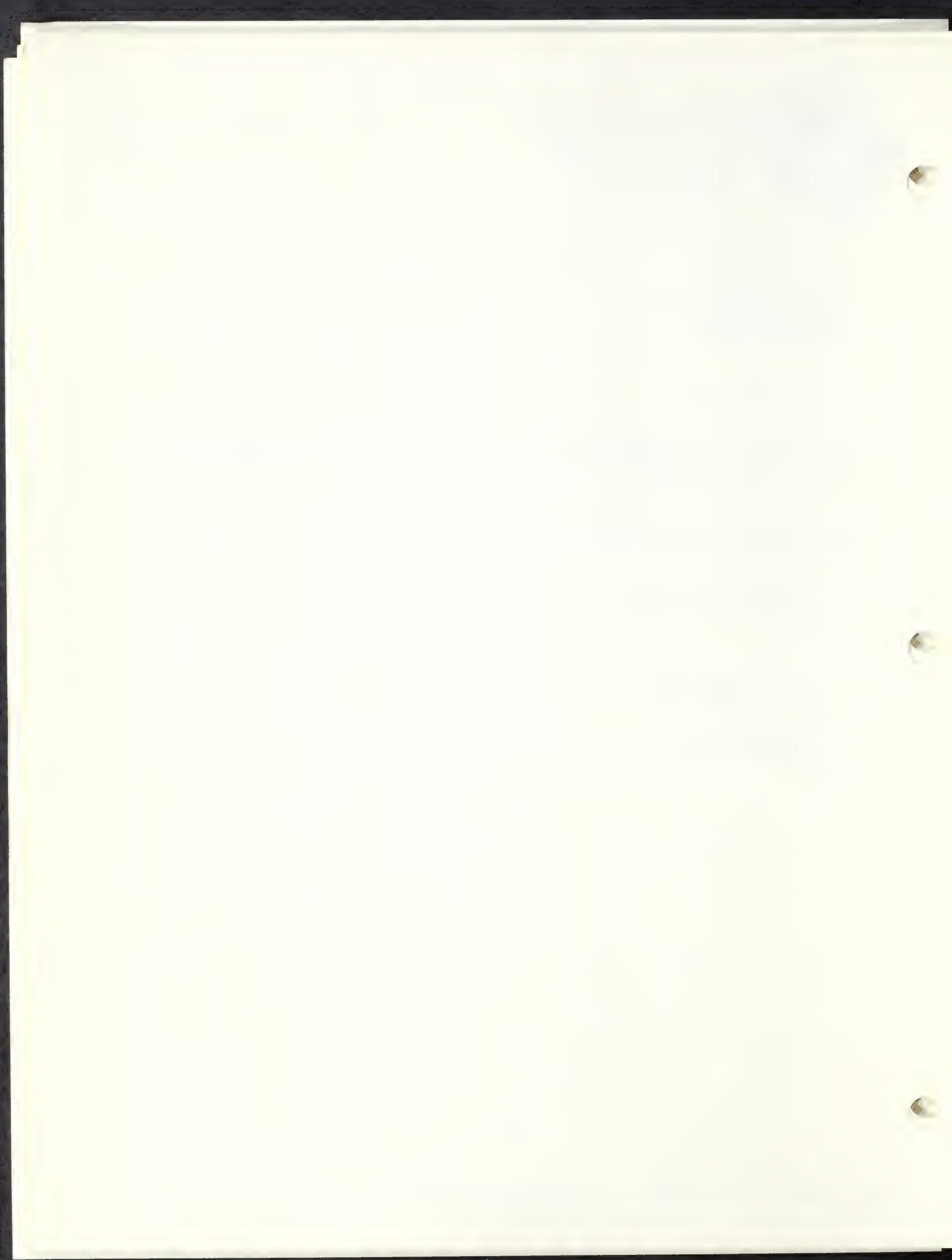
As you know, our inventory is ongoing, so more data on this area may become available in the future.

Sincerely,

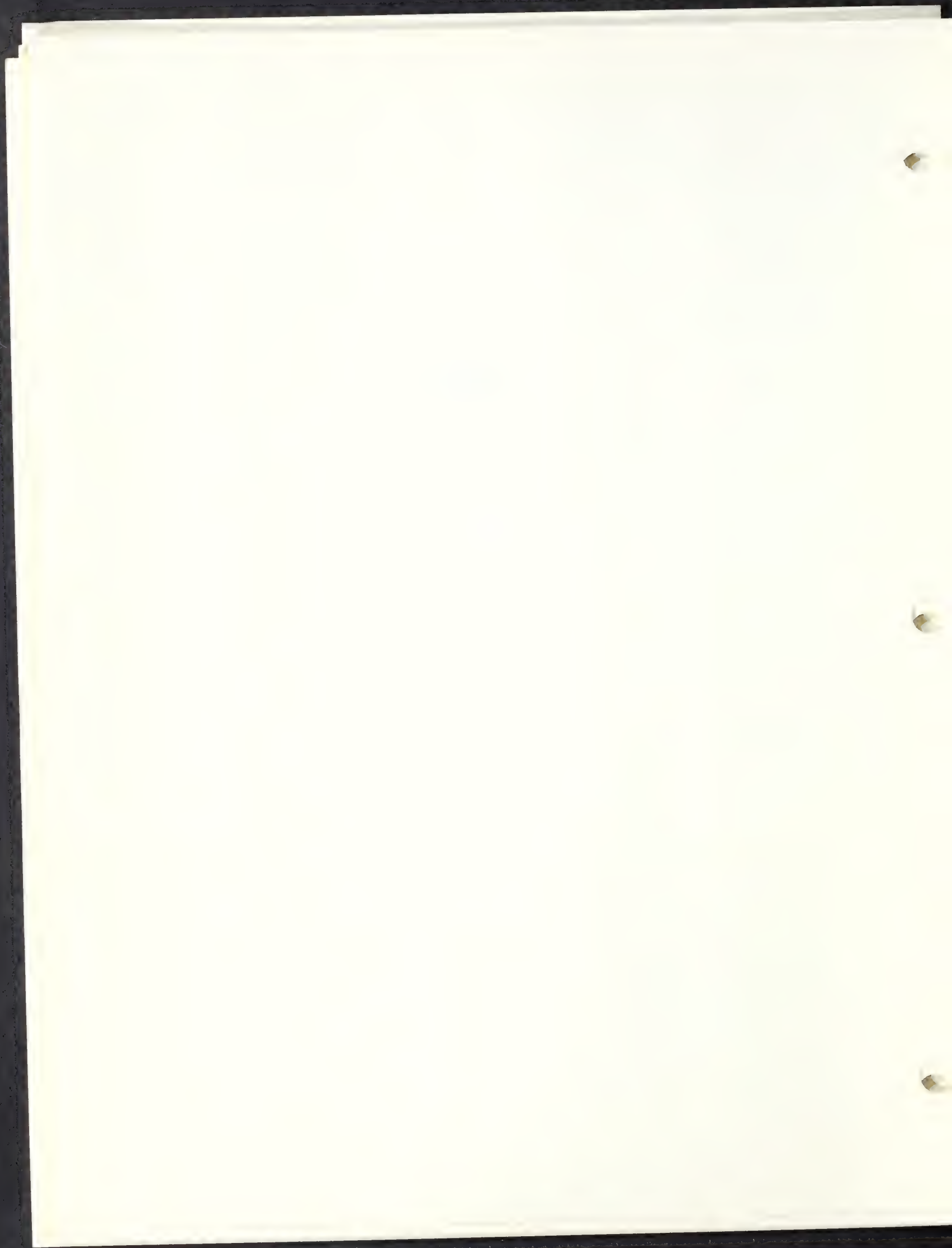
Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm



Appendix B

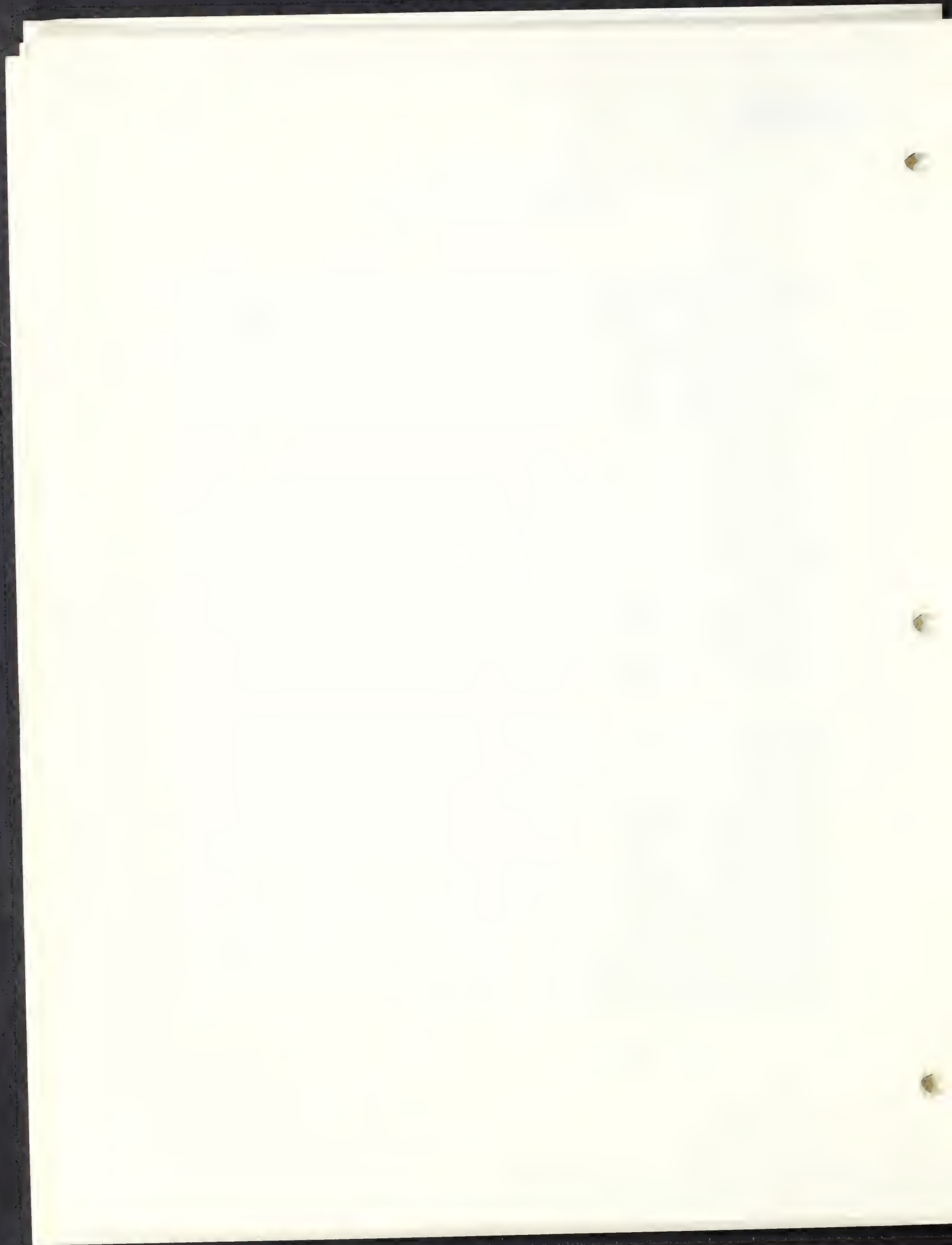


INTERCHANGE 14
APPENDIX B -WETLANDS

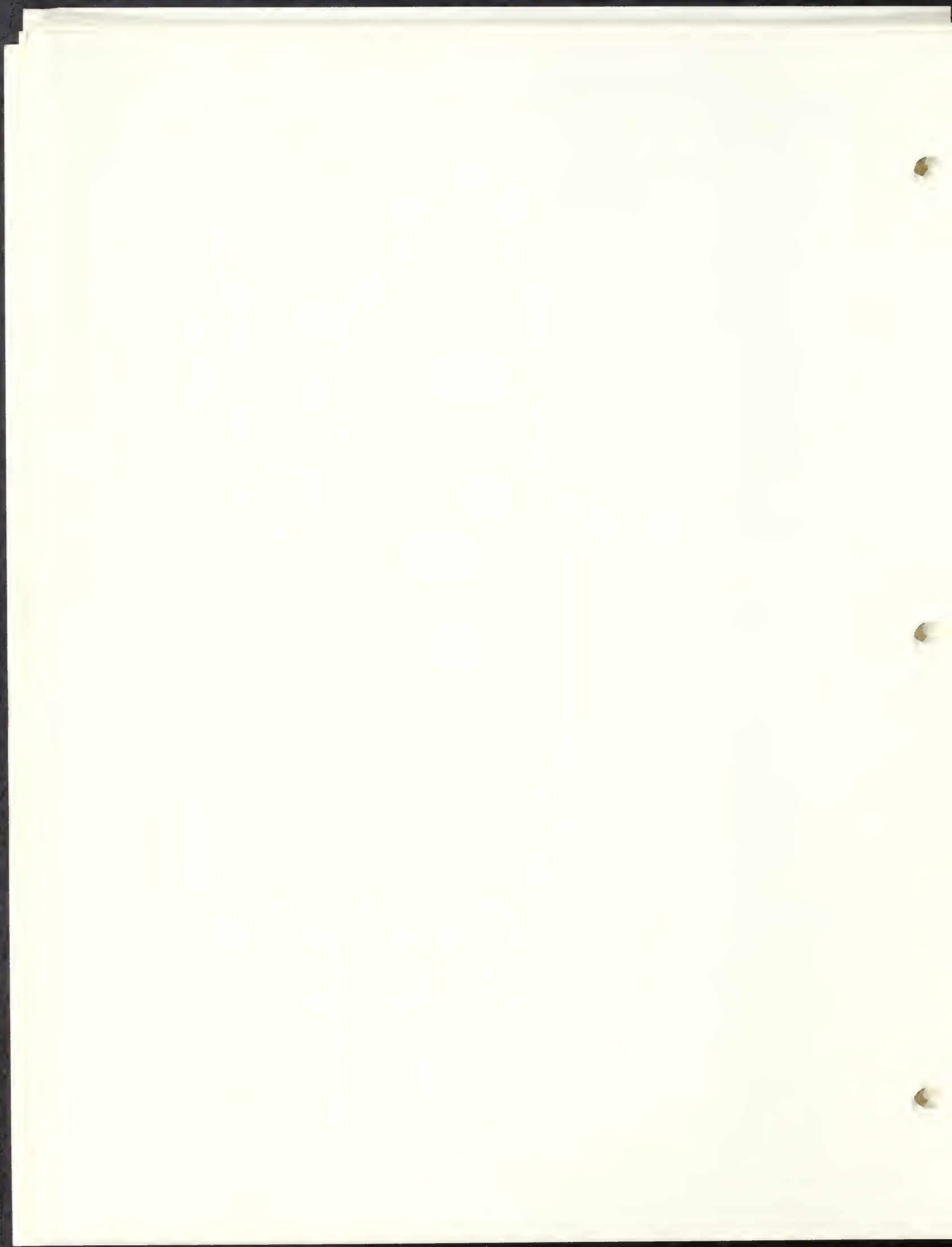
Prior to evaluating wetlands impacts, field investigations were conducted to identify wetland resources within the project limits. Wetland boundaries were approximately located in the field by measuring distances from established points of reference such as existing pavement, bridges, culverts, etc. These wetlands boundaries were then transferred onto 1"=1000' maps (Figure 2) and 1"=200' maps (Figure 3).

The results of these field investigations indicate that four (4) wetland area occur onsite. Wetland 1 consists of a forested wetland which discharges into a drainage ditch paralleling the Turnpike. This ditch is approximately 3' wide and dominated by emergent vegetation. Wetland 2 is also emergent vegetation located in a drainage ditch. Wetland 3 consists of emergent vegetation associated with Seaverns Brook and more Turnpike drainage ditches. Wetland 4 is dominated by scrub/shrub and forested vegetation associated with Seaverns Brook. Photographs of Wetlands 2 and 3 are presented in Figure 4 .

The proposed activities at Interchange 14 will impact Wetlands 1 and 3. The impacts at Wetland 1 will consist of relocating the drainage ditches to accommodate lane widening. The forested wetland will not be disturbed, and it is anticipated that emergent vegetation will rapidly re-establish itself in the newly constructed ditches. Impacts at Wetland 3 will consist of relocating the culverts at Seaverns Brook, as well as drainage ditch relocation as described above. Relocation of the drainage ditches will cause temporary disturbance of approximately 6,500 sq. ft. of emergent vegetation. Extending the culverts at Seaverns Brook will cause the loss of approximately 500 sq. ft. of emergent vegetation. Secondary wetland impacts will be limited by the implementation of standard sediment and erosion control practices.



Appendix C



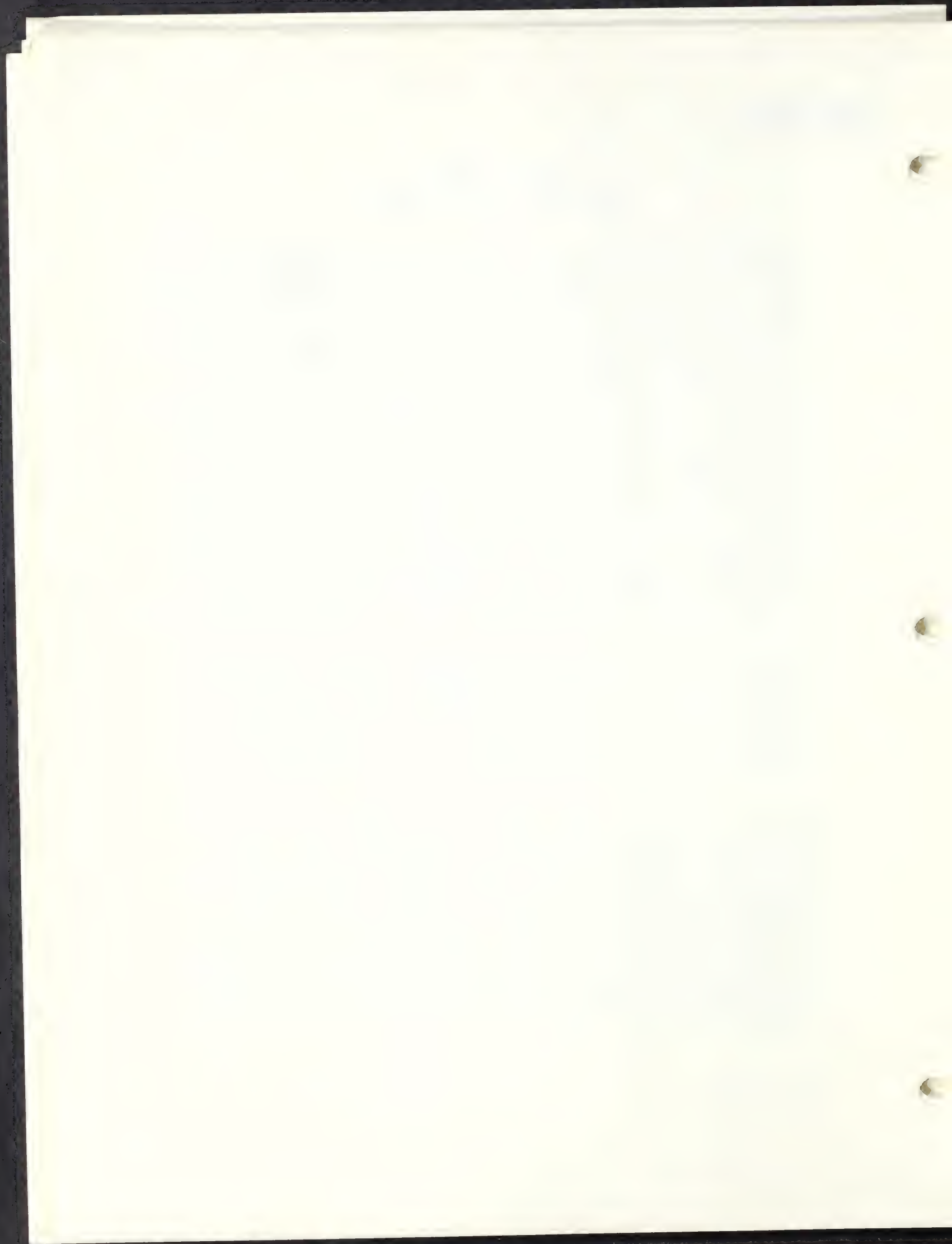
INTERCHANGE 14
APPENDIX C - WATER QUALITY

The proposed improvements at Interchange 14 will result in some impact to the water quality of Seaverns Brook, as well as that of an underlying aquifer. Water quality impacts result from sedimentation and erosion during construction, road salt use during winter storms, and petroleum products, nutrients and metals from highway runoff. Constuction-related water impacts are only temporary, and can be sufficiently mitigated by implementing an effective soil erosion and sediment control plan. Other water quality constituents, such as petroleum products, nutrients, metals and BOD, are present in highway runoff in proportion to the traffic volume. Because the proposed turnpike improvements will not result in increased traffic volumes other than normal growth, there will be no water quality impacts regarding the above constituents resulting from this project. Water quality data from Seaverns Brook is available from a sample collected April 10, 1986**. Results of the water quality analysis are attached. The brook is not a water supply source.

The only water quality impact that can be directly attributed to this project, therefore, is higher levels of sodium and chloride in surface and groundwater, as a consequence of increased salt use on the turnpike. The significance of the increased contaminant levels, particularly sodium and chloride, can be predicted for both surface and ground water, using standard methods.

The U.S.G.S. performed detailed studies in several Massachusetts streams of the response in sodium chloride levels to increased salt usage within the watershed (U.S.G.S. ; OFR 81-209, 1981). Equations were developed from these studies that predict the average and maximum expected sodium and chloride concentrations resulting from a particular annual salt application. Other factors considered in this method include the drainage area; average annual discharge; lake, pond and wetland storage area; slope of the watershed; and annual salt usage within the watershed, in tons.

**See Figure 1



The watershed area of Seaverns Brook which encompasses the entire interchange was used to model the water quality impacts. The calculations assumed that the interchange improvements would result in 3.9 lane-miles of additional road surface to be deiced. Based on an average annual salt use rate of 20 tons per lane-mile (Personal Communication, MTA) the existing and future annual salt loads were determined. The following table shows the concentrations in Seaverns Brook.

Table I

EXISTING AND FUTURE CONCENTRATIONS
OF SODIUM AND CHLORIDE IN SEAVERNS BROOK
RESULTING FROM PROPOSED INTERCHANGE IMPROVEMENTS

	Existing	Future
Mean chloride concentration	62	78
Maximum chloride concentration	106	132
Mean sodium concentration	38	44
Maximum sodium concentration	80	93

Note: All concentrations are in mg/l.

There will also inevitably be some introduction of additional sodium and chloride into the groundwater, as the project area is over a high yield aquifer with rapid recharge rates. The actual rise in concentration will likely be more than that predicted for the surface water, as a great deal of the road salt infiltrates the groundwater. There have been several incidences of extremely high sodium or chloride levels in wells located near the project area, which were eventually closed due to salt contamination. Thus, there would be no impact on water supply.

WATER QUALITY DATA FOR SEAVENS BROOK

April 10, 1986

Parameter	Result
Temperature (°C)	10
pH (units)	7.15
Conductivity (umhos/cm)	400
Dissolved Oxygen	13
Total Phosphate	0.022
Total Kjeldahl Nitrogen	0.41
Ammonia	0.1
Chloride	97
Sodium	56
Lead	0.1
Zinc	0.2
Iron	0.12
Cadmium	0.02

Appendix D

APPENDIX D - NOISE

PROPOSED RAMP WIDENING AT INTERCHANGE NO. 14

The proposed widening at Interchange No. 14 would result in an increase in short-term construction (peak) noise levels and insignificant increases in traffic (steady-state) noise levels.

Approximately 19 residences, located north of the turnpike, from just west of Oak Street to just west of Park Road, would be affected by the project. Construction noise would be caused primarily by the engine exhaust of construction equipment. The widening of the ramps and related mainline areas would include the following consecutive phases:

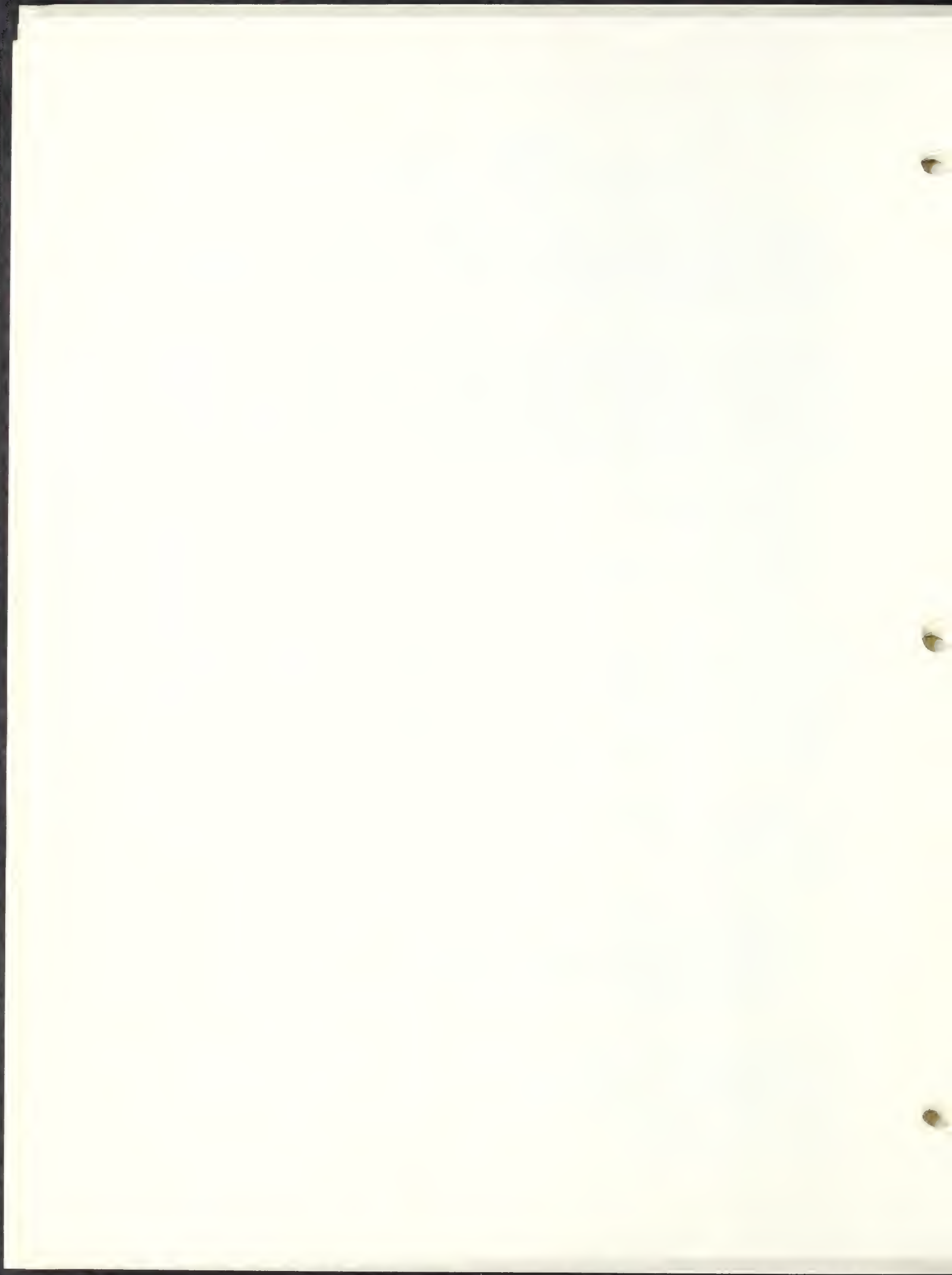
- o Ground clearing
- o Earthwork
- o Erection of structures
- o Finishing including filling, paving, grading and cleanup operations

Two bridges on the eastbound exit ramp are to be constructed or widened. Use of pile drivers would be probable in these areas. The noise from the pile drivers would have minimal impact on the residential areas. The bridge on the westbound turnpike is also to be widened and would have some construction noise impact on the residences just west of Ridgeway Road.

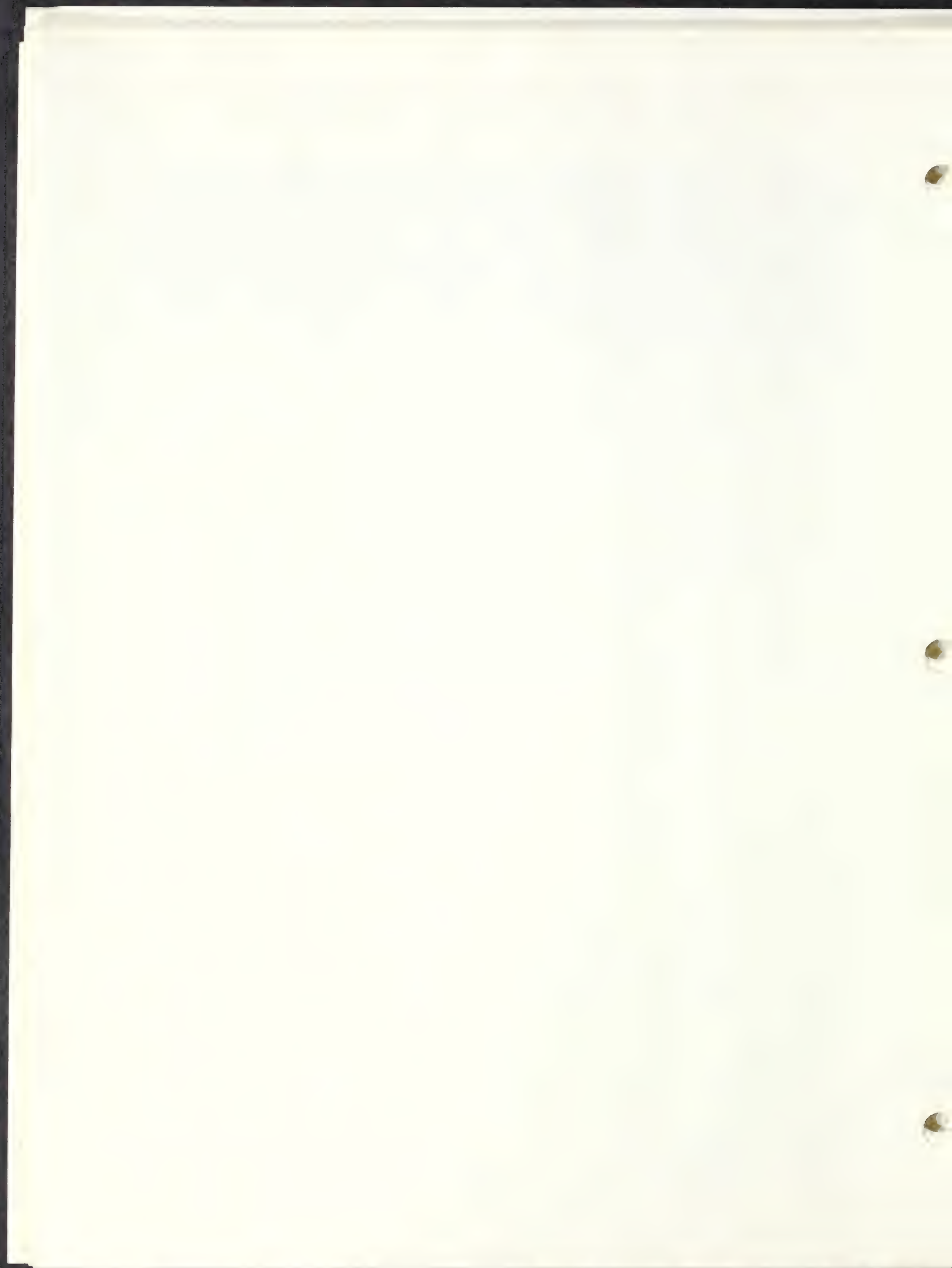
All noise level increases due to construction would, however, be short-term and could be controlled by the use of one or a combination of the following general methods:

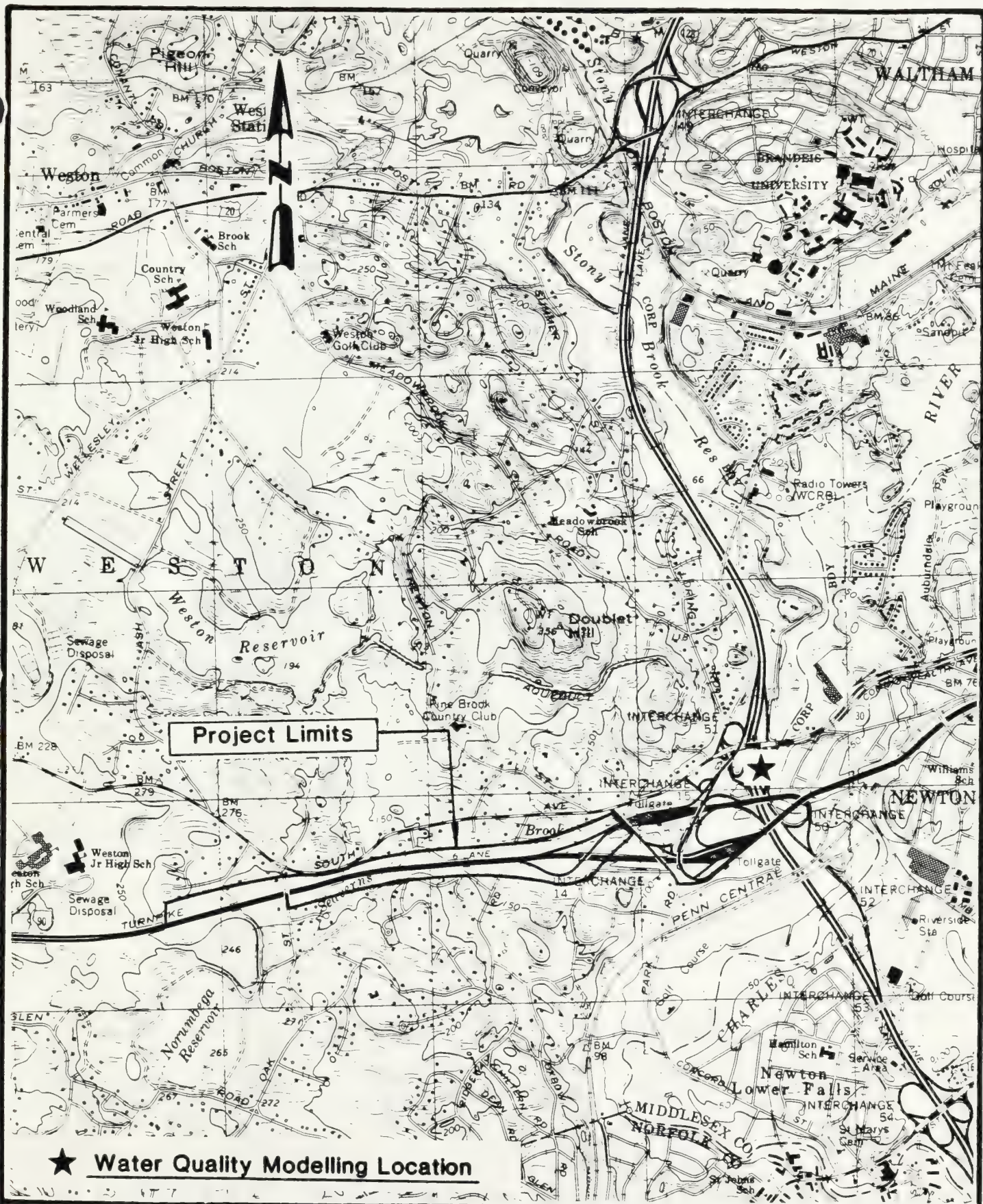
- o Installation of noise reduction devices on equipment
- o Enforcing operation time controls
- o Use of alternative, quieter equipment
- o Use of shielding or screening devices on or around equipment

The increase in traffic noise, between the build and no-build condition, at the 19 residences is determined by the change in traffic, speed and the distance between the source (roadway) and receiver (residence). No change



in traffic or speeds is expected as a result of the proposed improvement. Of the 19 residences, 18 are set back 150 to 200 feet and would experience noise level increases of less than one decibel. This increase is insignificant and unnoticeable in the natural environment. One residence located just west of Oak Street is within 50-75 feet of the westbound roadway. Traffic noise levels here would also increase less than 1 decibel. The increase is insignificant and unnoticeable.





★ Water Quality Modelling Location

Mass. Turnpike Authority

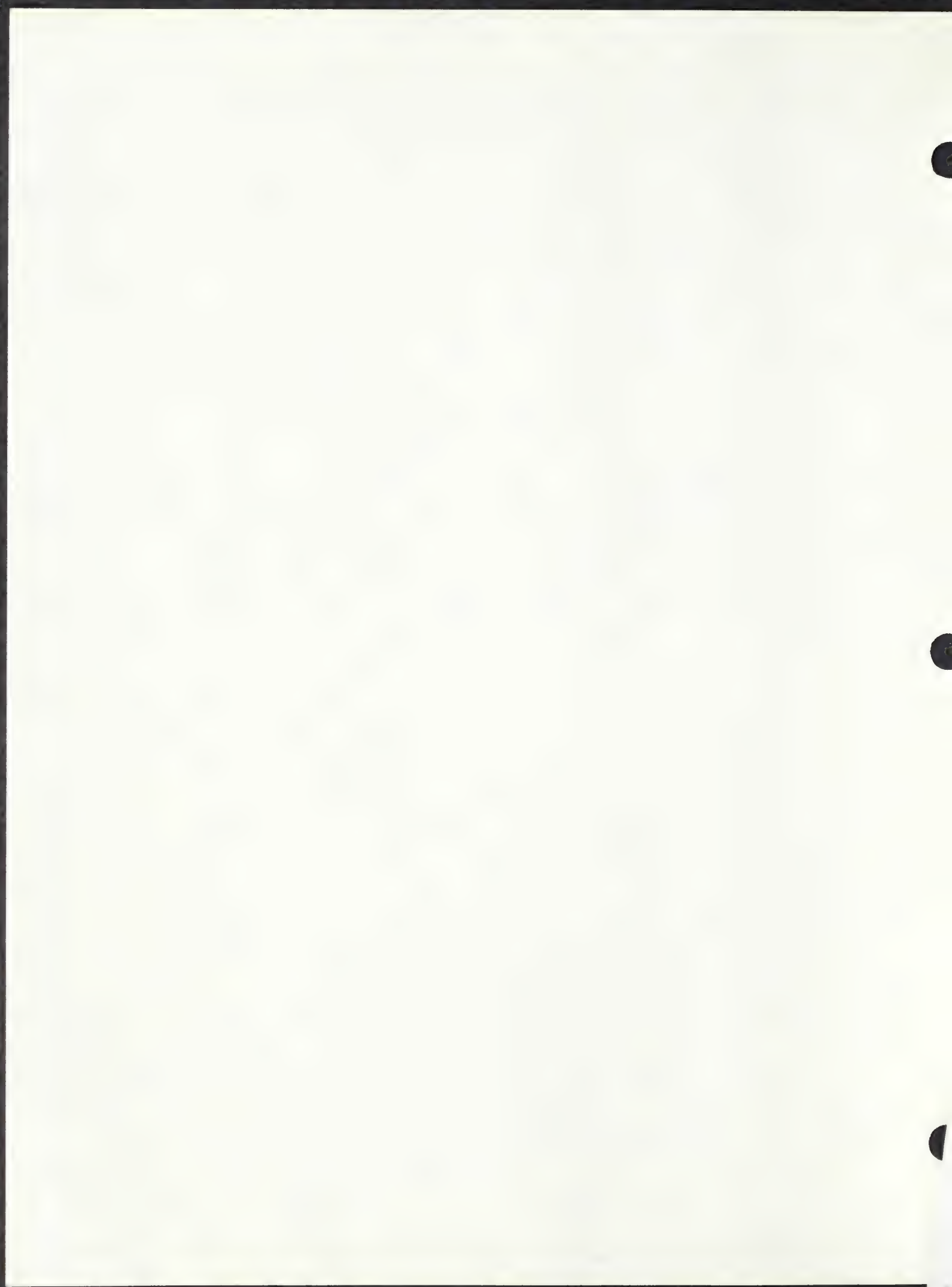
Interchange 14 Widening
Natick, Mass.

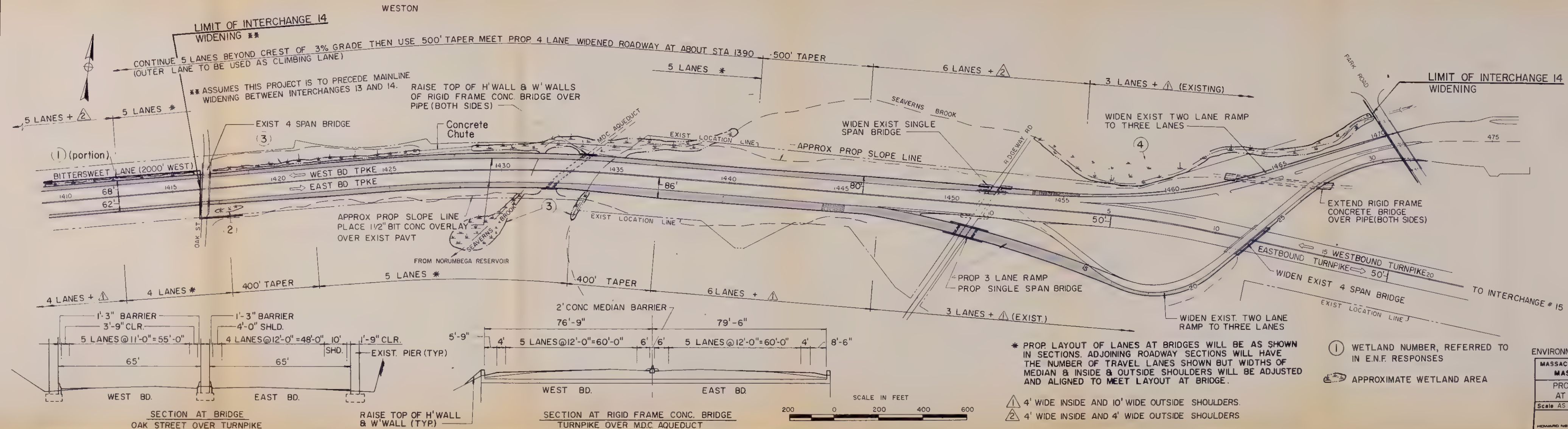
Scale: 1" = 2083'

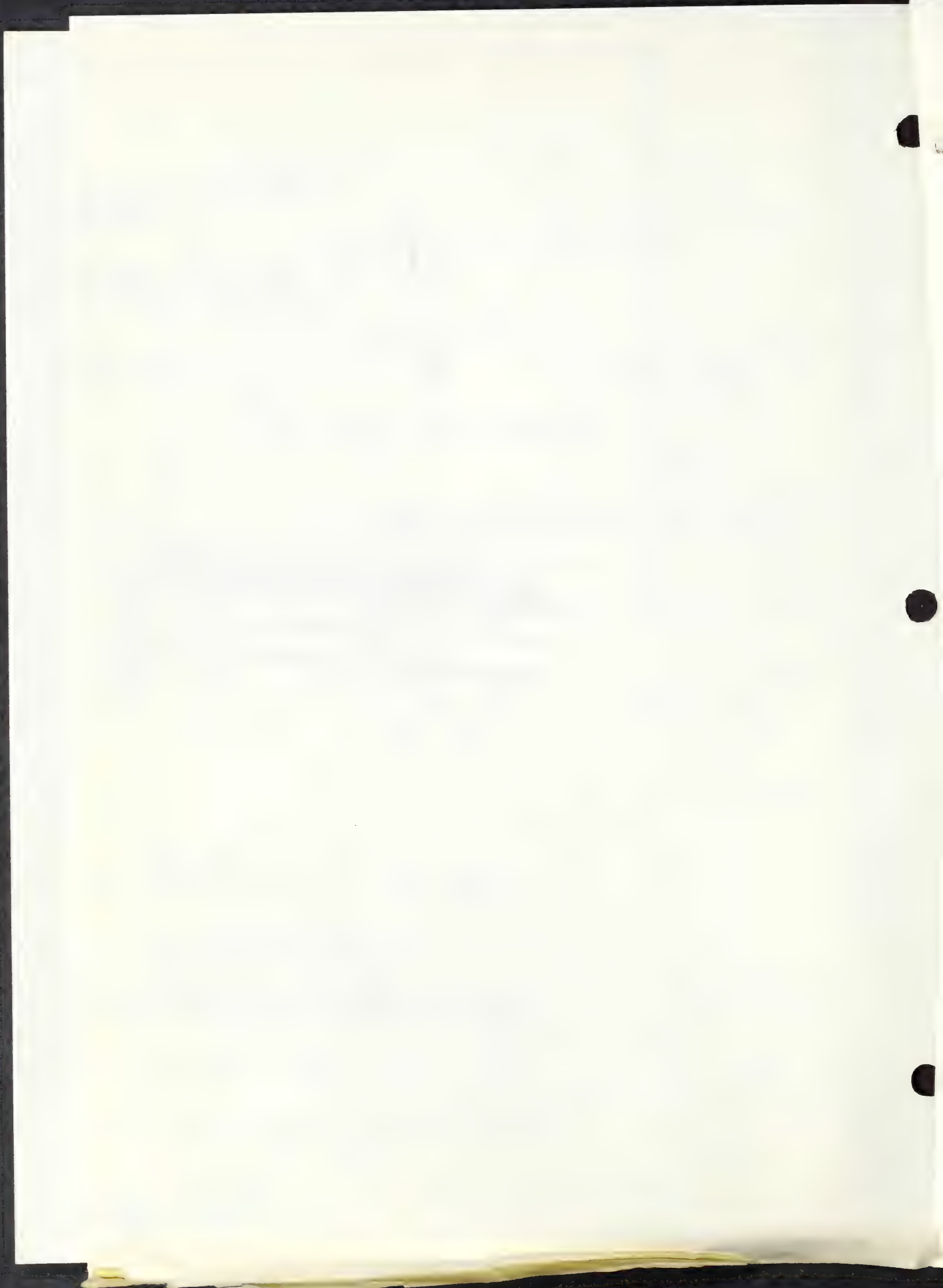
**LOCATION
MAP**

USGS QUAD: Natick, Mass.

Fig. 1







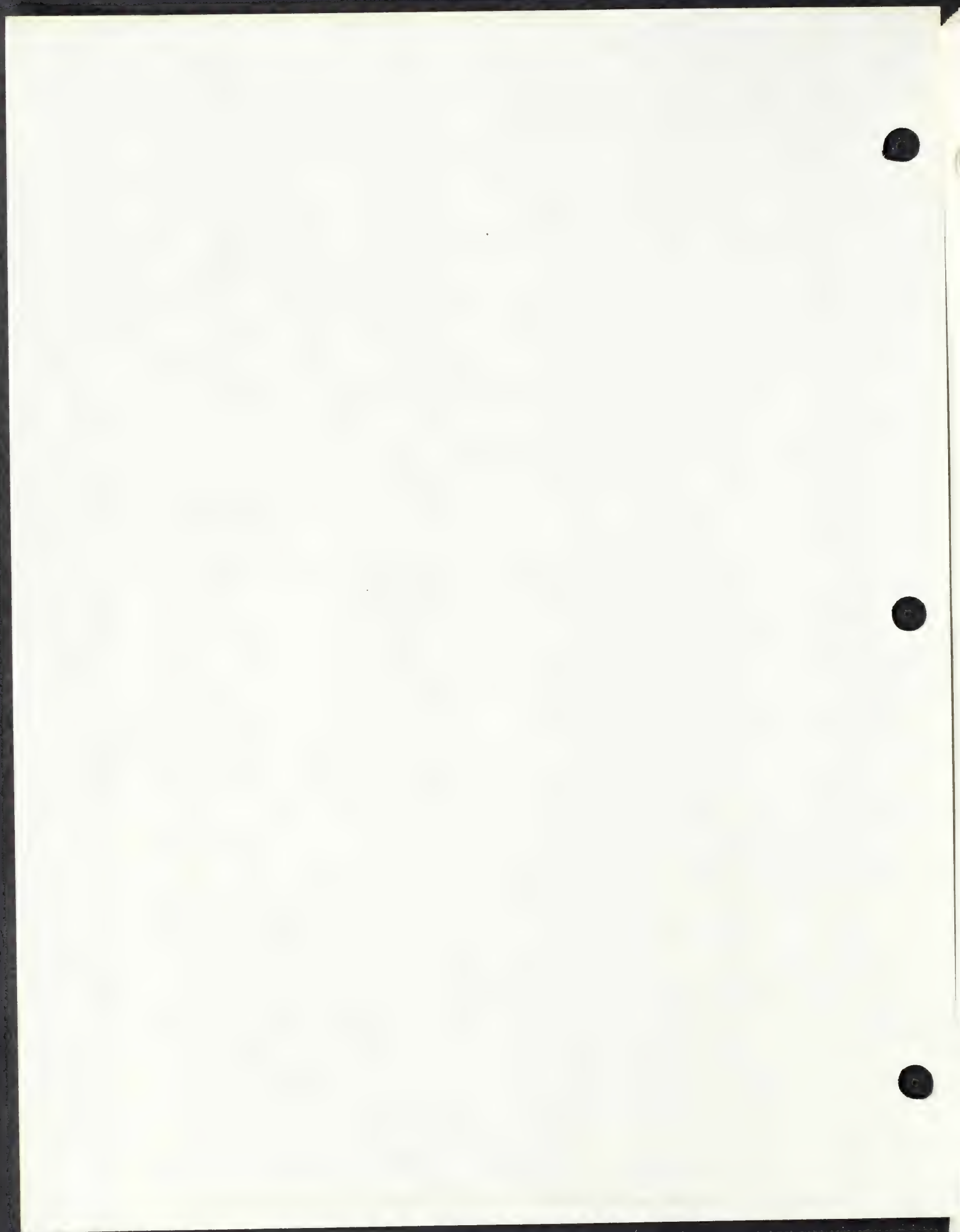


FIGURE 4

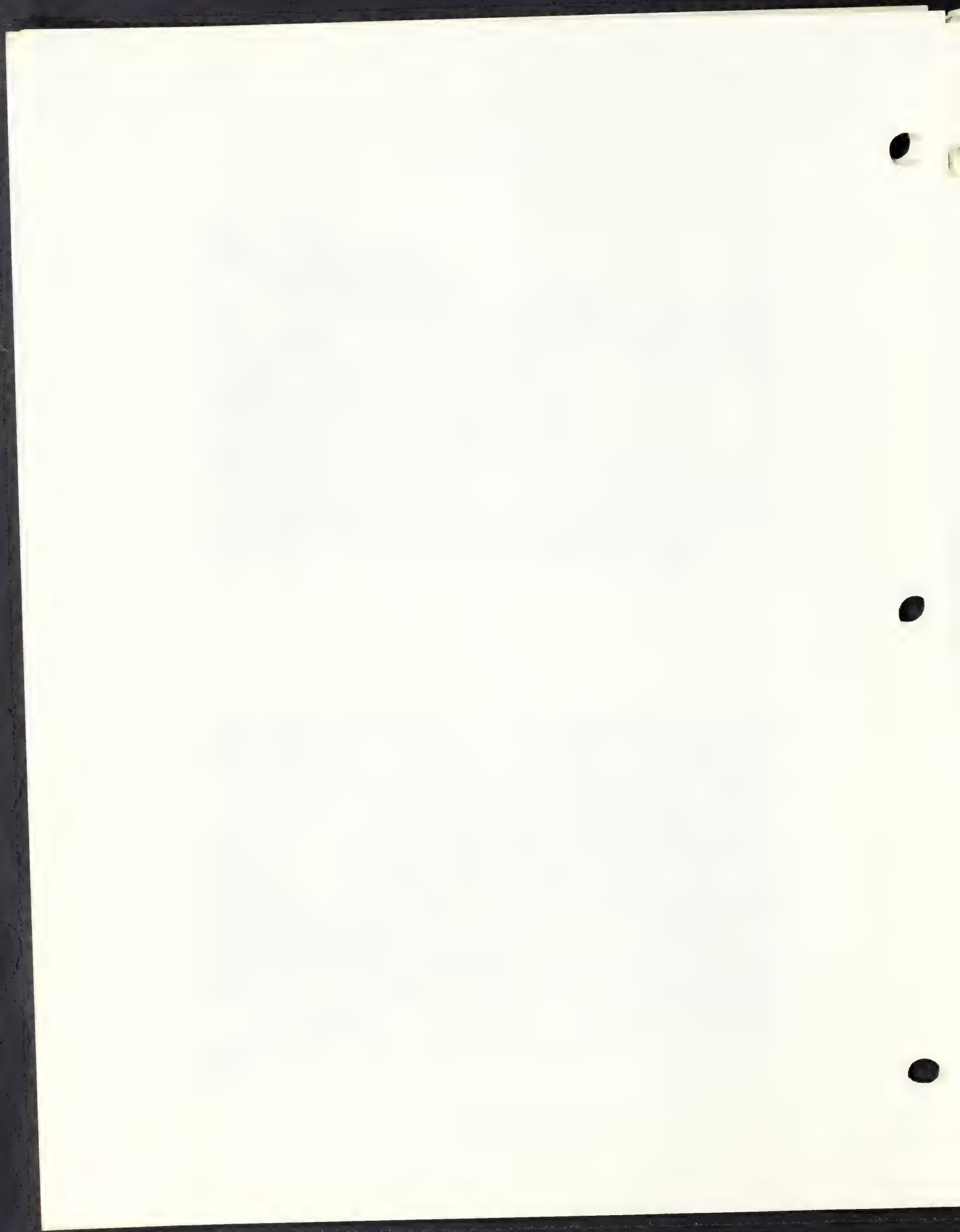
INTERCHANGE 14



WETLAND AREA 2 - Turnpike Eastbound - looking east

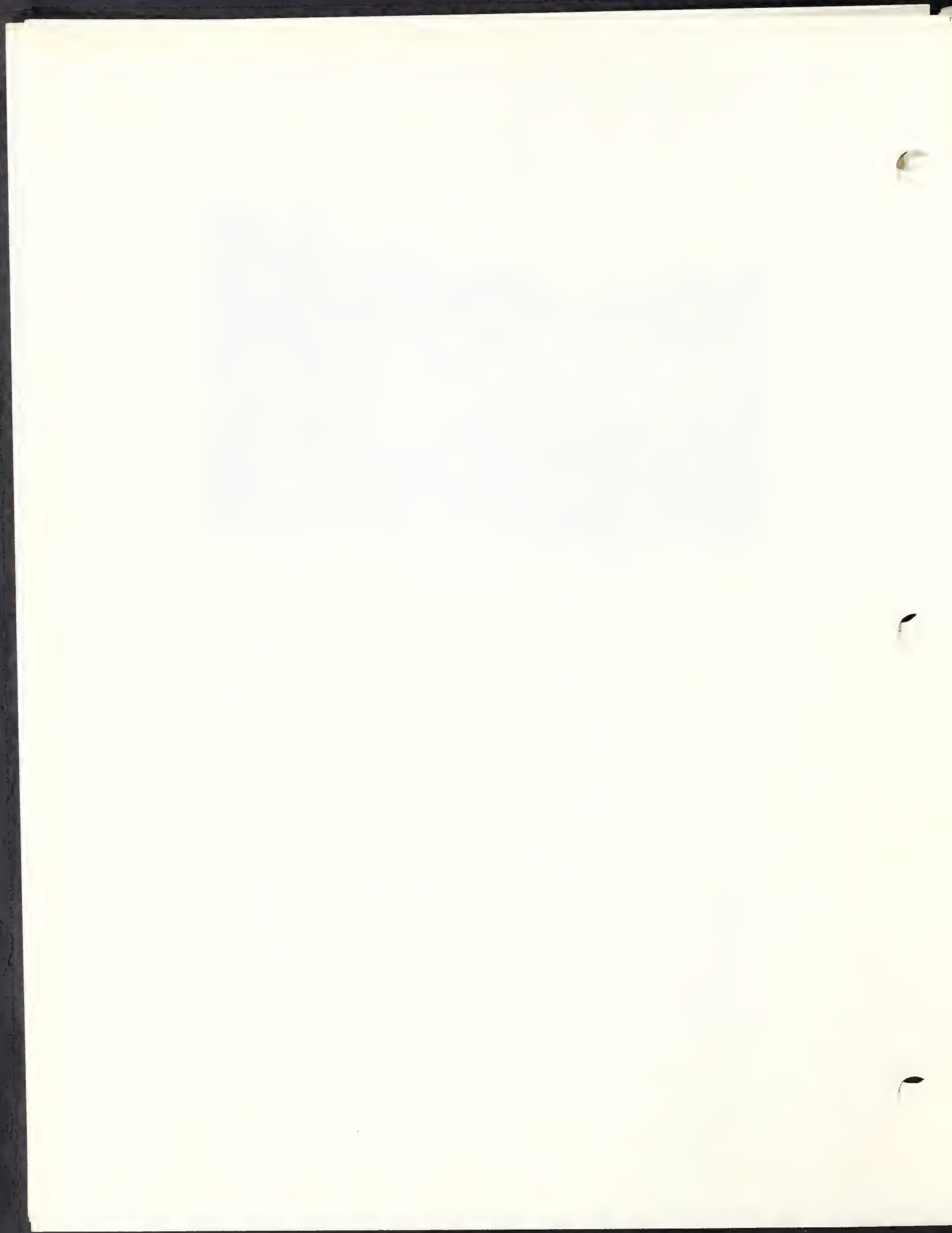


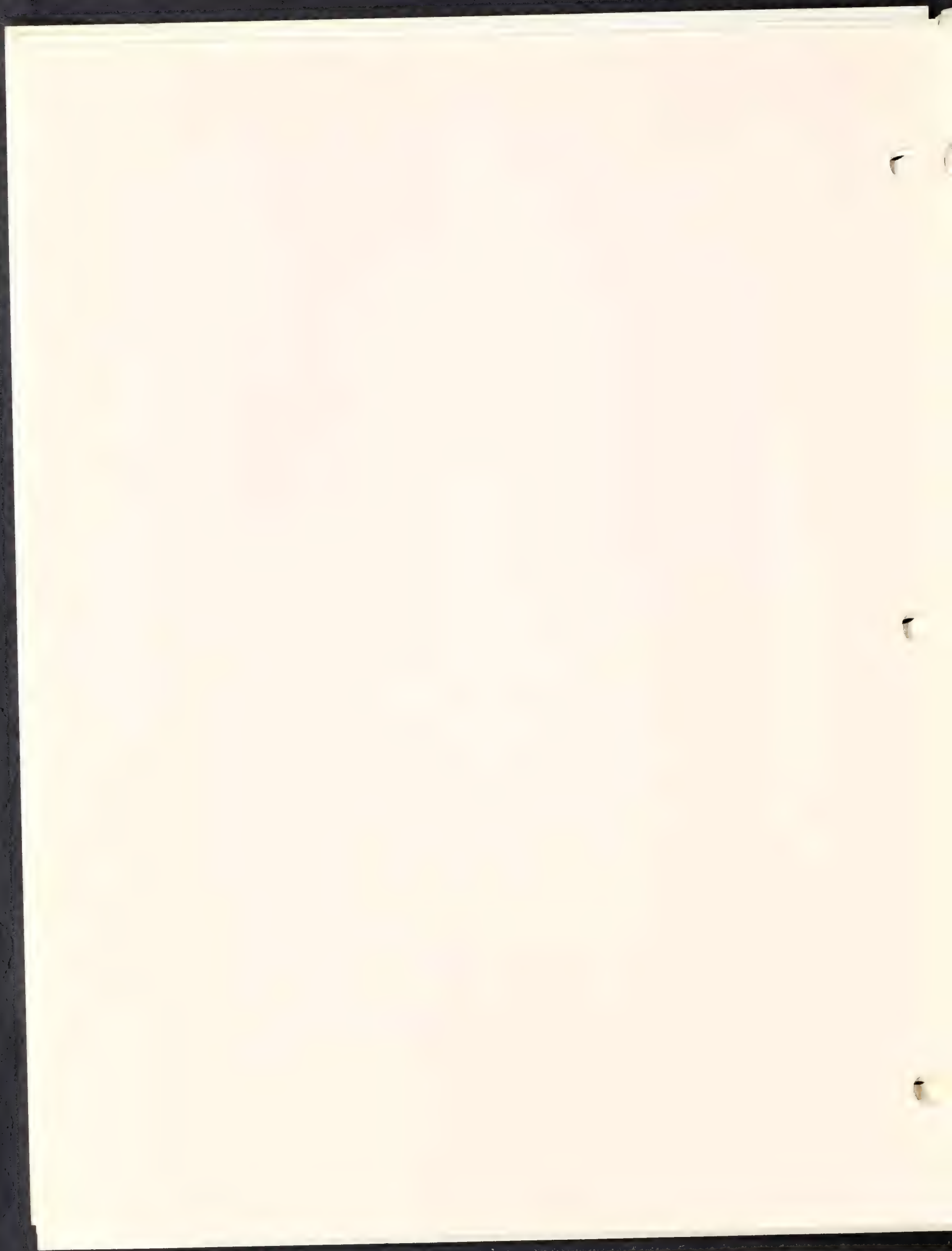
WETLAND AREA 3 - Turnpike Eastbound





WETLAND AREA 3 - Seaverns Brook Crossing





NOTE: SUBMITTED AS A "NOTICE OF PROJECT CHANGE"
TO THE PRECEDING ENF'S.

I. SUMMARY

A. Project Identification

1. Project Name Massachusetts Turnpike Authority
Service Area 8E Parking Expansion
2. Project Proponent Massachusetts Turnpike Authority
Address 668 South Avenue, Weston, MA 02193

B. Project Description: (City/Town(s)) Natick

1. Location within city/town or street address Massachusetts Turnpike, Eastbound Lane
Mile 117.63
2. Est. Commencement Date: October 1986 Est. Completion Date: May 1987
Approx. Cost \$ 1,100,000 Current Status of Project Design: 95 % Complete

C. Narrative Summary of Project

Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

The project involves the construction of 66 additional truck parking spaces at the Massachusetts Turnpike Authority Service Area 8E in Natick, Massachusetts. The project is required to meet existing and projected demands for parking and alleviate a severe shortage of adequate truck parking. Currently, when truck parking spaces are filled, trucks park in unauthorized areas along the service area ramps and in areas designated for cars. This overcrowding creates safety hazards as well as inconvenience to motorists and truckers using the service area. These conditions can be especially critical during snow emergencies. The proposed project will improve safety and accessibility for turnpike motorists and truckers using the service area's facilities.

The expansion of truck parking will involve the regrading and paving of an area directly south of the existing truck parking facilities at the service area. The configuration of the expanded parking lot is designed to minimize any change in the existing vegetative screen between the service area and the residential abutters. The site consists of an open, grassed field and an area of scrubby vegetation surrounding a forested tract. No property taking will be required for the proposed expansion.

Use This Page to Complete Narrative, If necessary.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report: YES _____ NO X _____ However, with EOE

MEPA Unit approval, this project will be incorporated into the EIR being prepared on other Turnpike projects in this area.

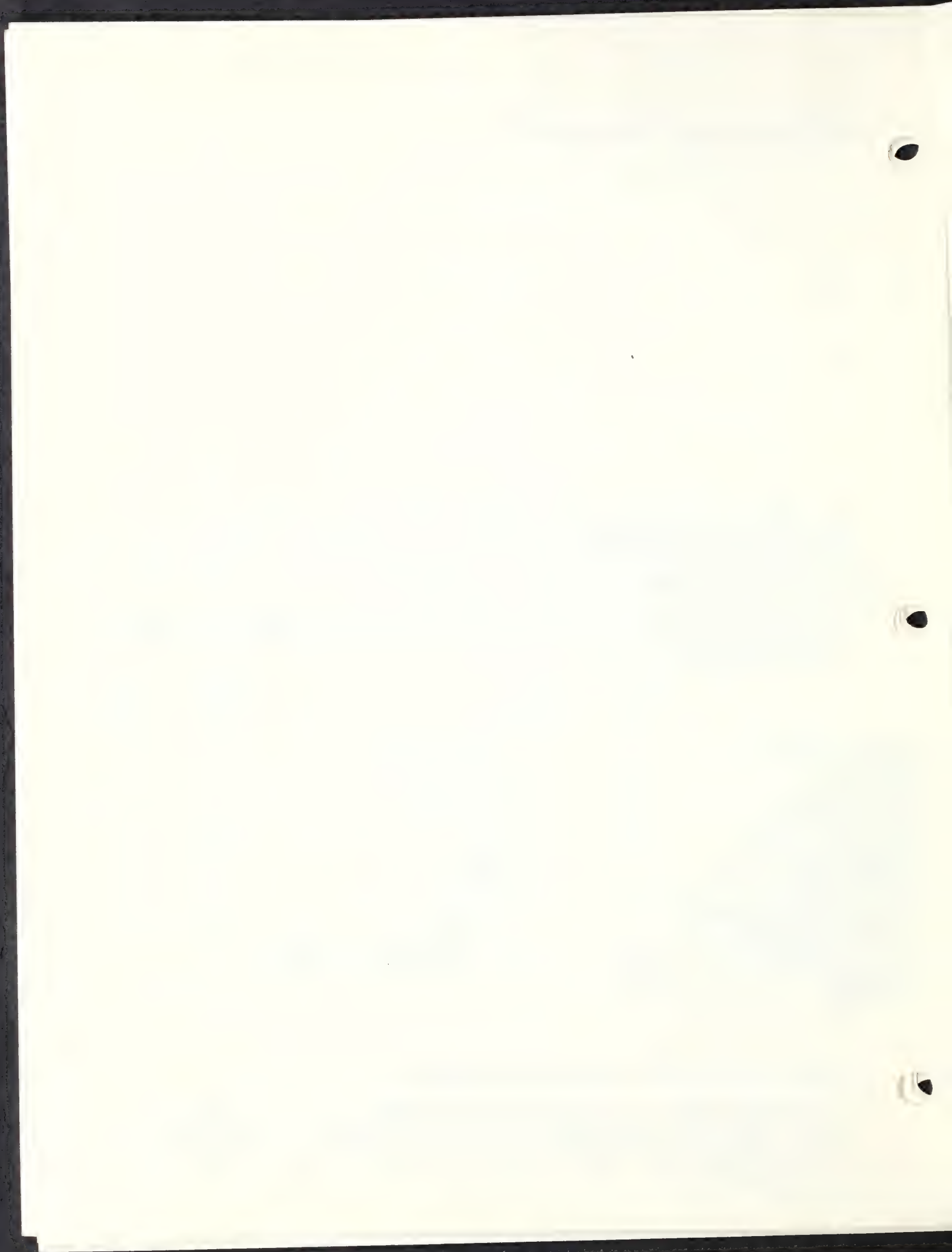
D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts	Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	_____	_____	_____	_____
Historical	_____	_____	_____	_____
Archaeological	_____	_____	_____	_____
Fisheries & Wildlife	_____	_____	_____	_____
Vegetation, Trees	_____	_____	_____	_____
Other Biological Systems	_____	_____	_____	_____
Inland Wetlands	_____	_____	_____	_____
Coastal Wetlands or Beaches	_____	_____	_____	_____
Flood Hazard Areas	_____	_____	_____	_____
Chemicals, Hazardous Substances, High Risk Operations	_____	_____	_____	_____
Geologically Unstable Areas	_____	_____	_____	_____
Agricultural Land	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____
		Mineral Resources		
		Energy Use		
		Water Supply & Use		X
		Water Pollution		
		Air Pollution		
		Noise	X	X
		Traffic	X	
		Solid Waste		
		Aesthetics		
		Wind and Shadow		
		Growth Impacts		
		Community/Housing and the Built Environment		

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

The proposed project is considered the only feasible alternative that will meet the existing and projected demand for truck parking at the service area. The configuration of the parking area has been selected to avoid any change in the existing vegetative screen between the parking area and the houses located to the south.



E. Has this project been filed with EOE A before? Yes _____ No X
If Yes, EOE A No. _____ EOE A Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name

Type of Permit

NONE

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
Yes _____ No X

DEQE File No., if applicable: _____

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name

Funding Amount

NONE

II. PROJECT DESCRIPTION

A. Include an original 8½ x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: 3.5 acres

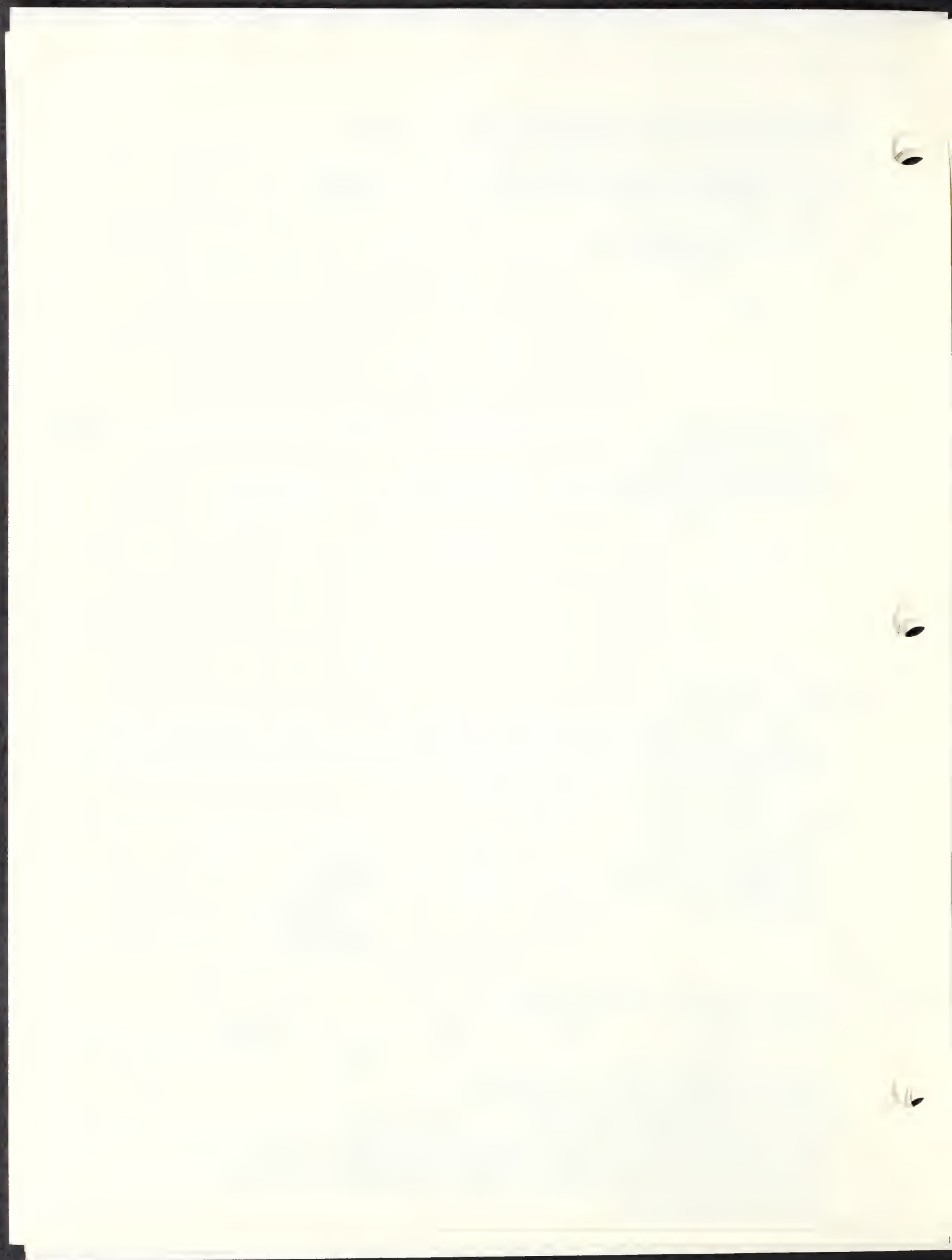
Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed	_____ acres	4. Floodplain	_____ acres
2. Open Space/Woodlands/Recreation <u>3.5</u> acres		5. Coastal Area	_____ acres
3. Wetlands	_____ acres	6. Productive Resources	
		Agriculture	_____ acres
		Forestry	_____ acres
		Mineral Products	_____ acres

C. Provide the following dimensions, if applicable:

Length in miles _____	Number of Housing Units _____	Number of Stories _____
	Existing	Immediate Increase Due to Project
Number of Parking Spaces... (Truck Parking)	<u>30</u>	<u>66</u>
Vehicle Trips to Project Site (average daily traffic)	_____	_____
Estimated Vehicle Trips past project site	_____	_____

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection.



III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

The area where construction is proposed is not considered an open space or recreation area. The proposed project will not affect the condition, use or access to any open space or recreation area.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes _____ No X

Explanation and Source:

Source: Mass. Historic Commission

There are no properties of historic significance in the vicinity of the project which would be affected by the proposed activities.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

No archaeological sites are mapped by the Mass. Historic Commission in the vicinity of the project.

C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The proposed project is anticipated to have no significant impacts on wildlife or fisheries. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered species in the vicinity of the project area (Appendix A).

2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: _____)

Field investigations indicate that the majority of the area which will be disturbed consists of open field and mature trees. Correspondence with the MA Natural Heritage Program indicates no known rare or endangered plant species or communities in the vicinity of the project area (Appendix A).

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes _____ No X

Explanation and Source:

Field investigations indicate no wetlands in the project area or within 100 ft. of the proposed activities.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

The project will not affect shoreline erosion or accretion.

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The areas where construction is proposed are not considered geologically unstable.

D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

This project will not affect the transport of any hazardous substances which may currently be occurring on the Turnpike. The project does not involve the storage, release, use or disposal of potentially hazardous substances.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The land within the project area is not considered viable for forestry or agricultural production.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No X

Explanation and Source:

There are no known mineral or energy resources within the project area.

3. Might the operation of the project result in any increased consumption of energy? Yes _____ No X

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

The completed project will not result in any increased consumption of energy. As with any construction activity there will be energy consumption during the construction process.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No X

Explanation and Source:

Portions of the manmade drainage system that were installed when the service area was initially constructed will be altered to accommodate new drainage needs. This will include piping a portion of the existing open ditch drainage system through the site. However, the project will not result in any significant changes in drainage patterns.

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes <u>X</u>	No _____
(c) Ground Water	Yes <u>X</u>	No _____

Explain types and quantities of pollutants.

SEE APPENDIX B

3. Will the project generate sanitary sewage? Yes ☒ No ☐

If Yes, Quantity: 3500 gallons per day

Disposal by: (a) Onsite septic systems Yes ☐ No ☒

(b) Public sewerage systems Yes ☒ No ☐

(c) Other means (describe) _____

During construction, sanitary sewage will be generated by construction workers. After construction the increase in truck parking capacity and use of the service area facilities may increase sanitary sewage.

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes ☐ No ☒

Explanation and Source:

SEE APPENDIX B

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes ☐ No ☒

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes ☒ No ☐

Explanation and Source:

SEE APPENDIX B

6. Might the operation of the project result in any increased consumption of water? Yes ☒ No ☐

Approximate consumption 3500 gallons per day. Likely water source(s) municipal water system

Explanation and Source:

During construction water may be used for dust control. After construction the increase in truck parking capacity may result in increased water consumption at the service area facilities.

7. Does the project involve any dredging? Yes ☐ No ☒

If Yes, indicate:

Quantity of material to be dredged _____

Quality of material to be dredged _____

Proposed method of dredging _____

Proposed disposal sites _____

Proposed season of year for dredging _____

Explanation and Source:

The proposed project does not involve any dredging.

G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?

Yes ☒ No ☐

Describe type and source of any pollution emission from the project site. _____

The construction of the proposed project would have two major short-term effects: an increase in emissions caused by construction equipment and an increase in dust maintained in suspension by construction activity. Construction vehicles will emit carbon monoxide, hydrocarbons, oxides of nitrogen and particulates. Long-term ambient air concentrations will not be significantly altered by emissions from trucks using the parking area. This is because truck exhaust from diesel engines contains few pollutants of significance in air quality analyses. Also, there will be a relatively minor change in the distance between the parking area and the nearest houses.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes ☒ No ☐

Explanation and Source:

Three residences located south of the service area would be affected by short-term construction activities, but not by long-term air quality levels caused by the project. The increased dust (particulate) levels will be the largest component of the short-term impacts and of the greatest annoyance to nearby residents. Dust emissions will vary depending on the level of activity, type of operations and weather conditions. The most common dust control techniques include watering, chemical stabilization and vehicle speed reduction.

3. Will access to the project area be primarily by automobile? Yes ☒ No ☐

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

The proposed project will alleviate overcrowded parking conditions at the Service Area 8E facility. The additional truck parking area being provided will improve safety and accessibility to the Service Area for both truckers and motorists using the Turnpike. Provisions will be made during construction to maintain uninterrupted access to the Service Area for cars and trucks. The facility is not amenable to carpooling, buses or mass transit.

H. Noise

1. Might the project result in the generation of noise? Yes ☒ No ☐

Explanation and Source:

(Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

SEE APPENDIX C

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes ☒ No ☐

Explanation and Source:

SEE APPENDIX C

I. Solid Waste

1. Might the project generate solid waste? Yes ☒ No ☐

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

Portions of the existing pavement and drainage system and an inactive sub-surface sewage disposal field will be removed and disposed of in a suitable landfill as part of the project. No other solid waste will be generated by the project.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs? Yes ☐ No ☒

Explanation and Source:

Existing undeveloped land directly south of the service area will be converted into a truck parking area. However, the existing vegetative screen from the residential area will remain unaltered and no aesthetic impact will result.

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use? Yes ☐ No ☒

Explanation and Source:

The proposed facilities will be compatible with those in the vicinity of the work.

3. Might the project impair visual access to waterfront or other scenic areas? Yes ☐ No ☒

Explanation and Source:

Not applicable.

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes ☐ No ☒

Explanation and Source:

Not applicable.

IV. CONSISTENCY WITH PRESENT PLANNING

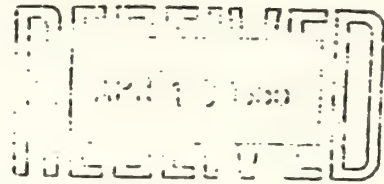
- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The project is not known to be inconsistent with any current planning policies. The expansion of parking facilities is consistent with the Massachusetts Turnpike Authority's plans to provide suitable services along the Massachusetts Turnpike, ensuring safe, efficient transportation.

Appendix A



Massachusetts
Natural Heritage
Program



April 16, 1986

Ms. Amy Hogeland
Jason Cortell & Assoc.
144 Second Ave.
Waltham, MA 02154

RE: Massachusetts Turnpike Improvements

Dear Ms. Hogeland,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant communities in the vicinity of the proposed improvements to the Massachusetts Turnpike, as referenced in your letter of April 11, 1986.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities which would be affected by this project.

As you know, our inventory is ongoing, so more data on this area may become available in the future.

Sincerely,

Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm

Appendix B

APPENDIX B - WATER QUALITY
SERVICE AREA 8E - ADDITIONAL TRUCK PARKING

The project area is underlain by an aquifer of low productivity, which is not recognized as an important present or future source of water supply. An aquifer of greater productivity, associated with Lake Cochituate, extends to within 1500 feet of the project area. However, no part of this aquifer will be paved or covered with impervious surface resulting from the project.

The project is not in the watershed of a public surface water supply. However, the Evergreen well field, of Natick, is about 1500 feet from the project area (see Figure 1). This well field is hydrologically connected to Lake Cochituate.

The proposed improvements at Service Area 8E will result in a minor impact on the water quality of Lake Cochituate as well as that of the associated aquifer. Sources of water quality constituents will include sedimentation and erosion during construction, road salt, and minor amounts of petroleum products, nutrients and metals.

Erosion and sedimentation will be prevented by implementing an effective soil erosion and sediment control plan. The other constituents will be present in parking lot runoff in small amounts, although none will increase in significant amounts.

There will also inevitably be some introduction of sodium chloride and minor amounts of other constituents into the groundwater through runoff to Lake Cochituate. The actual rise in concentration resulting from this project will be insignificant due to the lake's relatively large drainage basin and to the Turnpike Authority's road salt use policy as described below. However, with approval of the MEPA unit, the water quality impacts of this project will be modelled with the other Turnpike projects in the area due to the existing sodium levels in Natick's Evergreen well field.

The Authority's policy and practice for snow and ice control operations is to minimize the use of road salt while maintaining adequate levels of service and safe travel on the Turnpike. Consistent with this policy, less salt is applied to parking areas (such as this project) since vehicles are travelling at much slower speeds. In order to minimize the impact on the environment from the use of deicing chemicals, the Authority annually instructs all employees involved with the snow and ice control procedures. Automated spreading equipment is used by the Authority to precisely measure and control application rates. After each storm supervisory personnel closely monitor reports of salt use.

The Authority further adheres to guidelines for deicing chemical application rates resulting from the Generic Environmental Impact Report for Snow and Ice Control Operations (1978). The Authority is participating in an update to the Generic EIR and participated in the preparation of the original EIR.

Strict adherence to the Authority's snow and ice control procedures and applicable EIR guidelines will continue and will minimize any impacts on water quality resulting from this project.

The Authority is also committed to further improving its snow and ice control procedures based on viable new technology and advances in the

state-of-the-art. As an example, the Authority is installing remote sensors at several locations along the roadway to provide continuous monitoring of actual road conditions. This is seen to be an aid in dispatching equipment and reducing salt use.

Appendix C

APPENDIX C - NOISE

ADDITIONAL TRUCK PARKING - SERVICE AREA 8E

The proposed expansion of the truck parking area at Service Area 8E would result in an increase in short-term construction (peak) noise levels and insignificant increases in traffic (steady-state) noise levels.

Three residences, located south of the existing Service Area 8E truck parking area, would be affected by noise from the project. Construction noise would be caused primarily by the engine exhaust of construction equipment. The expansion of the parking area would include the following consecutive phases:

- o Ground clearing
- o Earthwork
- o Finishing including filling, paving, grading and cleanup operations

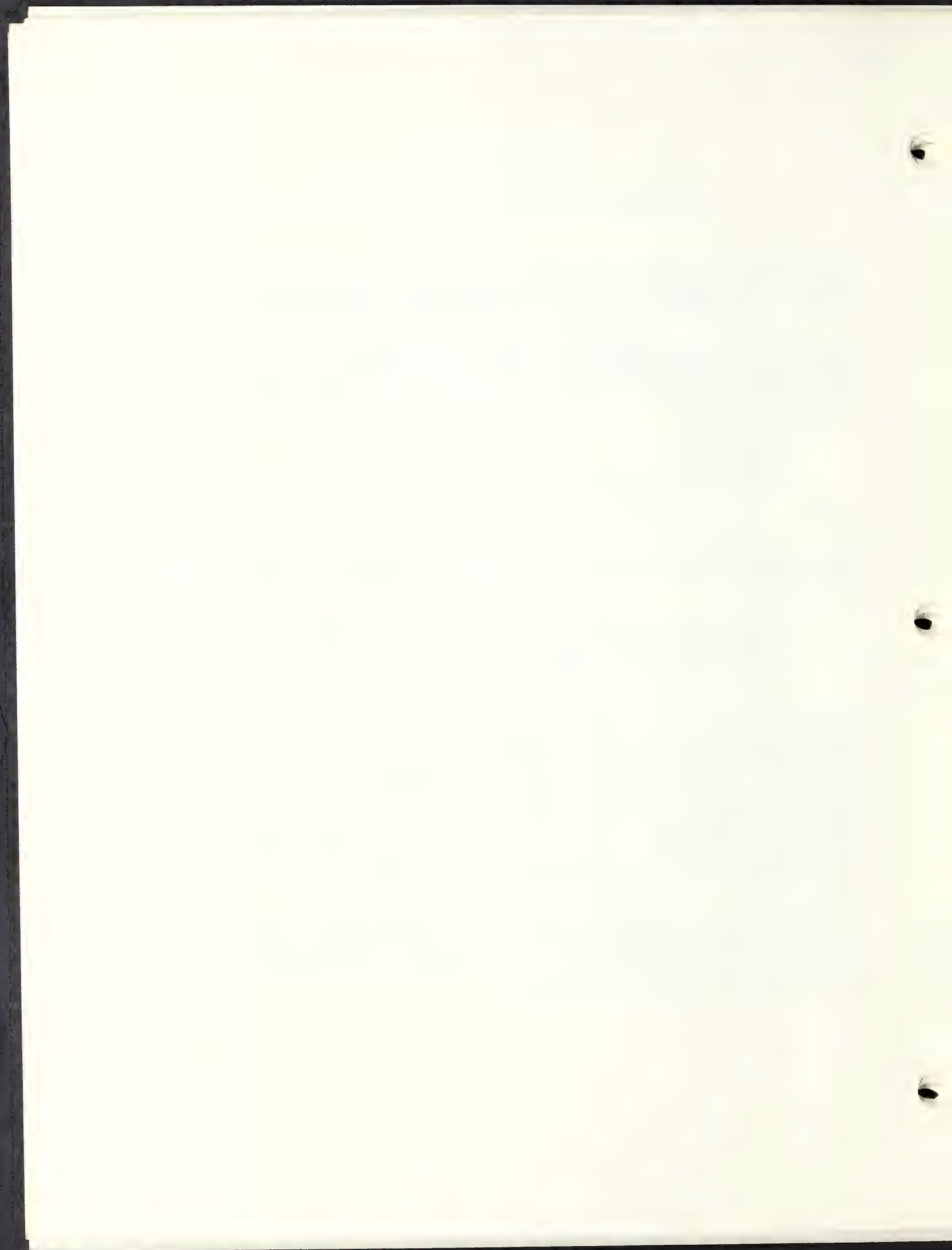
No pile driving is expected for this project.

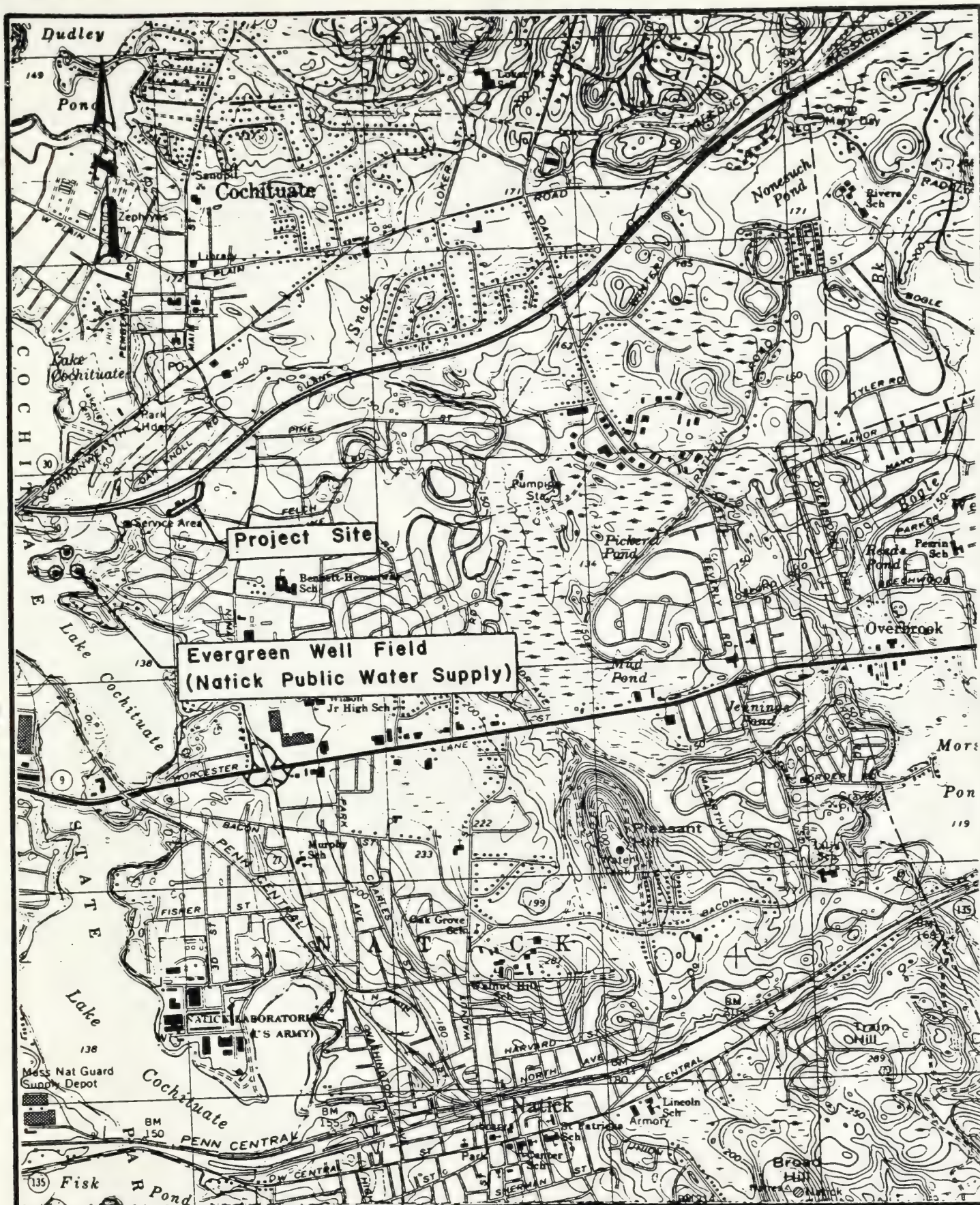
All noise level increases due to construction would, however, be short-term and could be controlled by the use of one or a combination of the following general methods.

- o Installation of noise reduction devices on equipment
- o Enforcing operation time controls
- o Use of alternative, quieter equipment
- o Use of shielding or screening devices on or around equipment

The increase in traffic noise, between the build and no-build condition, at the three residences is determined by the change in traffic, the speed and the distance between the source (parking area) and receiver (residence). No change in traffic or speed, and only a slight (app. 20-foot) reduction in distance, are expected as a result of the proposed improvement. However, due to the larger area of noise generation, it is anticipated that noise levels will increase 1-2 decibels at the nearest residences which would not be noticeable. This noise impact results primarily from peak noise levels due to trucks moving through the parking area, unlike the average noise levels experienced closer to the turnpike.

The Turnpike Authority proposes to model the noise impacts of the project on the residences, however, because of the proximity of the houses and the elevated levels of existing noise. With MEPA approval, this analysis will be performed in conjunction with the modeling being conducted on the other turnpike projects in the vicinity.





Mass. Turnpike Authority
Service Area 8E
Parking Expansion
IN
NATICK, MASSACHUSETTS

LOCATION MAP

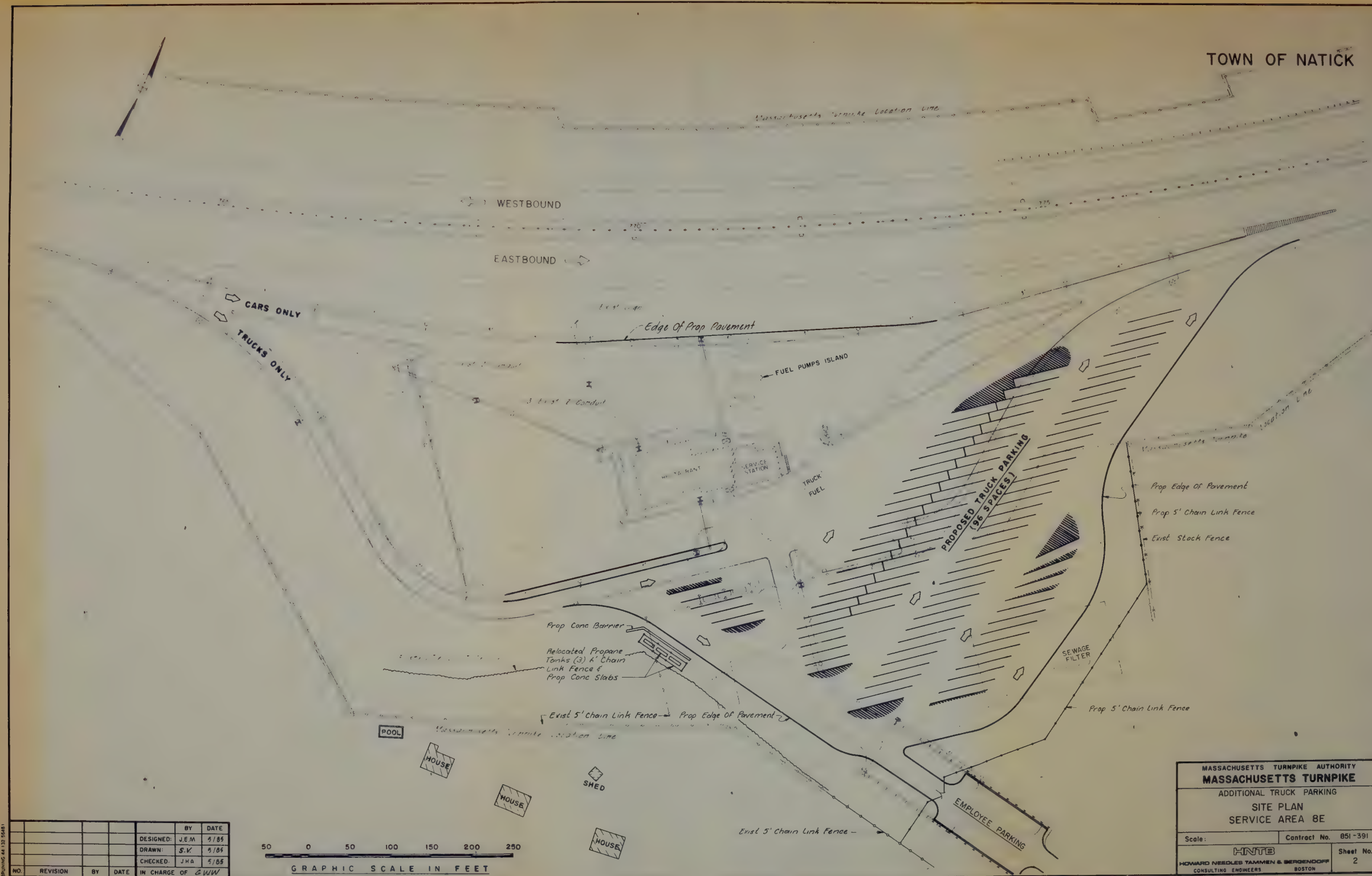
USGS QUAD: Natick, MA.

1"=2083'

Fig. 1

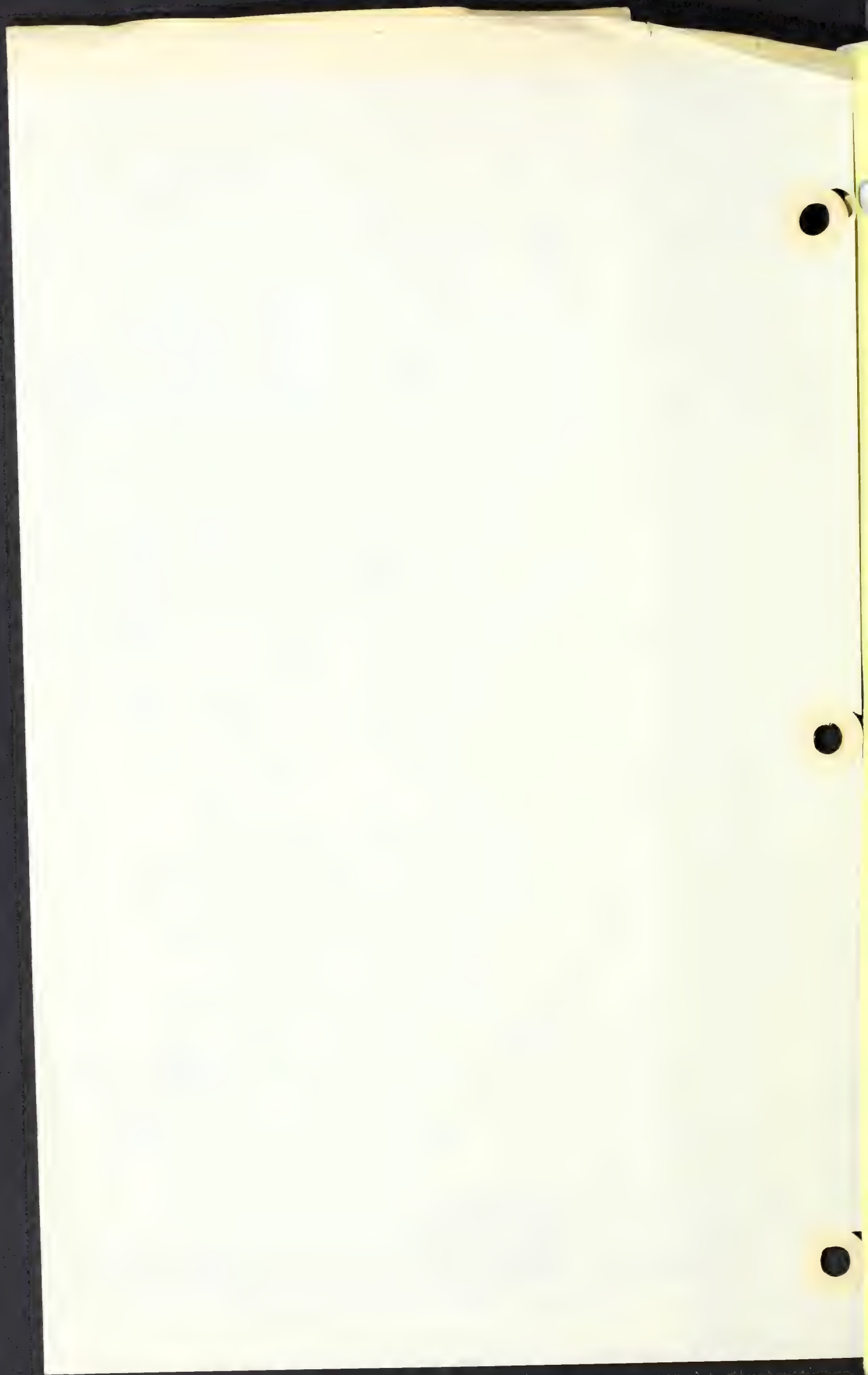
F

TOWN OF NATICK



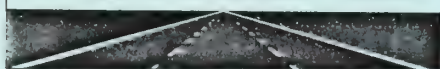
NO.	REVISION	BY	DATE	IN CHARGE OF	BY	DATE
				DESIGNED:	J.E.M.	5/85
				DRAWN:	S.V.	5/85
				CHECKED:	J.H.A.	5/85
					G.W.W.	

MASSACHUSETTS TURNPIKE AUTHORITY	
MASSACHUSETTS TURNPIKE	
ADDITIONAL TRUCK PARKING	
SITE PLAN	
SERVICE AREA 8E	
Scale:	Contract No. 851-391
HNTB	Sheet No. 2
HOWARD NEEDLES TAMMEN & BERGENDOFF	BOSTON
CONSULTING ENGINEERS	



4. LLG





Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #12

January 13, 1988

AGENDA

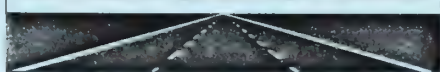
- 3:00 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- Review of minutes from November 18th and December 2nd meetings
- 3:15 AIR QUALITY: Microscale Analysis
Jeffrey Tarde, Environmental Scientist, Tech Environmental, Inc.
- 4:00 LIGHTING
Mary Beth Martin, EIR Coordinator, Howard Needles Tammen and Bergendoff (HNTB)
- 4:30 RECREATION STUDIES
Lisa Drucker, Environmental Planner, HNTB
- 5:00 HISTORICAL RESOURCES
Gordon Turow, Landscape Architect, HNTB
- 5:25 OTHER BUSINESS
- Public meetings update
- 5:30 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone (617) 369-4213





Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #11

January 6, 1988

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- Review of agenda
 - Review of minutes from November 18th, December 2nd meetings
- 3:45 NOISE
*Christopher Menge, Senior Consultant
Harris Miller Miller & Hanson, Inc.*
- 4:45 OTHER BUSINESS
- Next Meeting: **January 13, 1988 (proposed)**
 - Public meetings
- 5:00 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #10

December 16, 1987

AGENDA

- 3:00 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- Review of agenda
 - Review of minutes from November 18th meeting
- 3:15 WATER SUPPLY AND QUALITY
*Carlton Noyes, Vice President
Jason M. Cortell and Associates*
- 4:15 WETLAND STUDIES
*Amy Braiewa, Wetland Ecologist, Jason M. Cortell
and Associates, Inc.*
- 4:45 OTHER BUSINESS
- Next Meeting: **January 6, 1988 (proposed)**
 - Future LLG meetings
 - Public meeting
- 5:00 Adjourn
- 5:00 SPECIAL MEETING: Hazardous Materials Spills - MEPA
EIR Scope (see attached memo)
- 5:30 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

TO: Local Liaison Group Members
FROM: Ann Jacobson, Community Relations Manager
DATE: December 10, 1987
RE: Massachusetts Turnpike Authority - EIR Accidental
Materials Spills

We wish to clarify any misunderstandings about the 5:00 p.m. discussion. We will not be discussing the details of the State Police Emergency Response Plan, as this procedure is not germane to the specific transportation improvements and environmental impacts being addressed in this EIR.

However, we will discuss the MEPA Scope for the DEIR as it relates to accidental spills of hazardous materials. The DEIR will be responsive to the MEPA Scope. Specifically, we will discuss the methodology used in evaluating "the potential for and effects of accidental spills of materials on the road surfaces..."

Carl Noyes of Jason M. Cortell and Associates will be present for this discussion.

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #9

December 2, 1987

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- Review of agenda
 - Other comments on November 18th agenda items
- 3:45 AIR QUALITY
Jeffrey Tarde, Environmental Scientist, Tech Environmental
- Sensitive receptors
 - Mesoscale analysis
- 4:15 LIGHTING
Dayle Boyce, Electrical Engineer, Howard Needles Tammen and Bergendoff
- 4:45 OTHER BUSINESS
- Next Meeting: **December 16, 1987 (proposed)**
 - Future LLG meetings
- 5:15 Adjourn

Technical Consultants
Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #9

MEETING NOTES

DATE: December 2, 1987
TIME: 3:30 p.m.
PLACE: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Rick Taintor
Town of Natick: George Wallace; William Costello
Town of Southborough: Janice Conlin
Town of Wayland: Theresa DiCicco
Town of Weston: Richard Albrecht; Jean Thurston

Other Officials and Members of the Public

Joanne Bissetta, TAB Newspapers
Mary Pughe, Weston Abutter
H.B. Willis, Jr., Weston Selectman
Massachusetts Turnpike Authority
M.C. Crain, Chief Engineer
Peg MacKenzie, Coordinator of External Affairs

Consultants

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff
(HNTB)
Gary Walsh, Massachusetts Turnpike Authority Project Manager,
HNTB
Joseph Grilli, EIR Project Manager, HNTB.
Mary Beth Martin, EIR Coordinator, HNTB
Dale Boyce, Electrical Engineer, HNTB
Jeffrey Tarde, Environmental Scientist, Tech Environmental
Patricia Allison, Environmental Scientist, Tech Environmental
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson
Associates
Elizabeth Mikulecky, Research Assistant, Barry Lawson
Associates

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
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Barry Lawson opened the meeting, reviewed the agenda and asked those present to introduce themselves. He noted that notes from the November 18th meeting had not yet been completed and would be sent as soon as possible. Jean Thurston commented that she had sent George Wallace's recent letter concerning an Emergency Response Plan to Attorney Michael Gerrard. Theresa DiCicco requested that presenters summarize technical presentations and recapitulate the major points made. Mr. Lawson stated that future presentations would include the highlights of technical presentations.

AIR QUALITY ANALYSIS

Jeffrey Tarde, Environmental Scientist, Tech Environmental

Mr. Tarde stated that he would be presenting information on the mesoscale analysis and selection of the receptor sites for the microscale analysis. He added that the microscale analysis itself is not yet completed. The mesoscale analysis compares present emissions levels and projected 1989 and 1995 emissions levels for carbon monoxide (CO), non-methane hydrocarbons (NMHC) and nitrogen oxides (NOx) (see attached hand out). The analysis is done in the regional study area which encompasses from I95-Route 128 to I495 and from Route 20, south to Route 135. The purpose is to document if the project will reduce NMHC emissions and thus comply with the State Implementation Plan (SIP) for air quality.

Mr. Tarde said that the mesoscale analysis shows that there will be an overall decrease in emissions over time. He noted the following highlights of the study:

- CO and NMHC regional emissions are lower in both 1989 and 1995 if the proposed improvements are implemented.
- NMHC decrease shows consistency of the project with the SIP.
- NMHC emissions improve with the Build condition due to shifts in traffic volumes, higher Turnpike speeds, and fewer delays at tollgates.

It was established that future emissions will decrease by at least 14% regardless of the proposed improvements due to continuing Federal and State initiatives to reduce automobile emissions. 1989 emissions are estimated to be 1% lower with the Build option than the No Build; and those of 1995 would be approximately 2% lower with the Build option. The changes are mainly due to improved traffic flow.

Mr. Tarde showed the group the 88 "sensitive receptor sites" chosen for the microscale analysis, including 17 suggested by community air quality consultant, Dr. James Fay. He reiterated that these sensitive receptors will be used in the air quality models to determine existing and projected CO



levels surrounding major intersections and Turnpike interchanges for the Build and No Build alternatives.

Comments and Discussion Points

- Several LLG members were concerned about whether the studies sufficiently account for any differences in pollutants emitted from automobiles and trucks. Mr. Tarde explained that air quality impact studies use different emissions rates of CO, NMHC's and NOx for cars and trucks.
- Members of the LLG noted that particulates are already a visible problem for some residents adjacent to the Turnpike. They expressed concern that the increase in parking spaces at Service Area 8E would increase particulates emissions enough to warrant their inclusion in the analysis. Mr. Costello emphasized that particulate emissions should be studied further. [Particulates analysis was not incorporated into the DEIR studies because DEQE does not require it. This is because particulates standards are not exceeded in the study area.]
- Mr. Lawson asked, as CO emissions from automobiles decrease in the future, will the proportion of pollutants contributed by trucks to the total vehicle emissions increase. Ms. Allison replied yes. [Future CO emissions will decrease for both cars and trucks. For example, a heavy duty diesel truck will experience a 17% reduction between 1987 and 1995, and an automobile will experience a 34% reduction in the same period.]
- Mr. Grilli asked if trucks have the same emission testing procedures and regulatory controls as cars. Mr. Tarde and Ms. Allison explained that they are handled differently. EPA regulations governing automobiles are much more stringent. However, some standards for new trucks will be coming into effect in the next few years.
- Ms. Thurston asked how the area of study for the mesoscale analysis was chosen. Mr. Tarde responded that the area of study for the mesoscale analysis is defined as the area within which traffic volumes would be affected due to the Turnpike improvements. Mr. Grilli added that this is the same area covered in the Traffic Impact Analysis.

LIGHTING ANALYSIS

Dale Boyce, Electrical Engineer, HNTB

Mr. Boyce began by stating that highway and lighting engineers have determined that the proposed improvements warrant additional lighting on the Turnpike in the areas around Interchange 14 and its ramps, the Proposed Barrier Toll Plaza 11B and Service Area 8E. The objective is to propose such lighting in a way which will minimize stray light cast onto private property.

Mr. Boyce reviewed the methodology used in the lighting study. He said that field measurements were made on 'moonless' nights to document the existing lighting conditions in the areas under study and to examine the characteristics of current lighting fixtures (e.g., the throw of light to the front and to the back of the fixtures). It was noted that light levels tapered off significantly 100 feet back from the curb.

Mr. Boyce referred to maps to show the proposed changes. With respect to the area around *Interchange 14*, he said where it is practical, it is proposed to light the widened shoulder using the existing median lights on the westbound ramp. He said there is a need to add median lights on the Turnpike west of Ridgeway Road where traffic is merging and going uphill as well as on the eastbound side where the traffic begins to split off to take the exit. Improvements are also needed to light the eastbound downhill ramp before the bridge. East of the eastbound bridge the lights will be moved behind the relocated guard rail. Relocated existing lights could be used to light the widened shoulder on the north side of the westbound ramp east of Ridgeway Road.

Mr. Boyce said that in the area for which Mainline sections are proposed to be widened near *Interchange 14*, expanded light coverage is needed. In most cases, existing lights could be used to light the road shoulder, particularly on the north side of the Turnpike. In some cases, additional lights may be necessary especially in areas where the road curves and on the south side of the Turnpike. These additional lights would throw light back, he said, but engineers are examining several alternatives to minimize stray light cast. The MTA is committed to mitigating situations in the study area where significant levels of stray light might cross the property lines.

In the area of *Service Area 8E*, Mr. Boyce said that the area back to property lines was examined and no measureable light was found using light measuring instruments. The proposed plans indicate a need for additional lights due to a high level of vehicular and pedestrian activity associated with the service area. Adding lights around the perimeter is proposed to illuminate the service area without throwing stray light back into private property.

Regarding the proposed *Barrier Plaza 11B*, improved lighting will be necessary because of lane changes and decisions on which toll booth to use. Mr. Boyce said that alternative methods of lighting are being investigated. Options include use of lights at varying heights and lights with different optical patterns that are not visible from side viewing angles. In addition, dense plantings can be utilized to minimize stray light.

Comments and Discussion Points



- Ms. DiCicco commented on how much "sky glow" there is from the Turnpike and asked if this negative effect could be reduced with a different type of light. Mr. Boyce responded that sky glow is a function of weather conditions and light which is projected upward and light which is reflected from the ground surface. Selecting a light fixture with optics which direct the light downward onto the roadway will help to some degree. Light fixtures with optics which project light upward will not be used. Otherwise, little can be done with lights to minimize this, especially during some adverse weather conditions.

- Several LLG members asked about the colors of different types of lights. Mr. Boyce explained that low pressure sodium lights have a single color element and appear as a bright orange light, whereas, high pressure sodium lights are yellow, but with a whiter light than low pressure sodium. He said that both of these types of lights are being considered. In response to a comment made by Theresa DiCicco, Mr. Boyce added that the use of mercury vapor lights would be very inefficient and it would require many more of these type of lights to sufficiently light the Turnpike.

- Mr. Willis asked if both expense and offensiveness were taken into account. Mr. Boyce replied that consideration is being made to the type of lights that will be both efficient and effective without spilling light onto neighboring private property.

- Mr. Costello asked if anyone would be studying how the vehicle lights themselves spill into private property, particularly trucks entering and exiting Service Area 8E. Mr. Boyce replied that this had not yet been studied and Mr. Grilli added that the problem of headlight glare could be addressed further in the lighting study. Mr. Boyce added that the geometry of the roads needs to be looked at to see where adjustments could be made to mitigate the effect of headlight glare. Mr. Crain suggested that it would be relatively easy to install glare screens on the existing chain link fences in the median to prevent the glare.

- Ms. Thurston commented that the new ramp in Weston is likely to have similar problems with headlight glare and she asked if a glare screen might be installed there, too. An abutter to the Turnpike in Weston agreed that headlight glare is a problem and that her property is affected by the headlights of cars.

- Ms. Thurston then asked if the mitigating measures under consideration have been designed to mitigate impacts of proposed Turnpike improvements or to improve the current situation. She added that the situation is a problem today and she would like to see an improvement. Mr. Boyce responded that these concerns are still being considered and that a final decision has not yet been made.

- Mr. Lawson asked if reducing the curve on the Interchange 14 eastbound off-ramp means there will not be a need for the



cluster of lights that exist along the more curved old ramp. Mr. Boyce agreed that there might be a slight reduction in the number of lights in that area.

OTHER BUSINESS

Future Meetings

Ann Jacobson announced that the next LLG meeting will take place on December 16, 1987 and will address Water Supply, Surface Water and Wetlands. The following meeting is proposed for January 6, 1987 and will cover Noise, Recreation and Historical Impacts. Another LLG meeting will be scheduled in January to cover any topics not yet addressed including the Air Quality microscale analysis.

Ms. Jacobson said that public information meetings will be held in the third week of January to discuss preliminary findings of the Draft Environmental Impact Report (DEIR). Mr. Grilli added that the DEIR is scheduled for release on March 1, 1987. A public hearing will be held in the third week of March. Ms. Thurston said that she had spoken with Attorney Michael Gerrard who will be requesting an extension in the standard 30-day comment period between the release of the DEIR and the MEPA decision. Ms. Martin and Mr. Grilli said that the comment period may be extended by MEPA with consent of the MTA.

Ms. Thurston asked how much information would be made available to the public prior to the public meetings. Mr. Lawson and Ms. Jacobson replied that the purpose of the public information meetings is to present information on DEIR findings for review and comment by the public. They noted that newsletters and fact sheets would be prepared before the meetings and handouts and graphics would be prepared for use at the meetings. Ms. Thurston added that it should be mentioned in the newsletters that the data repositories contain further information for the public.



Road Surfacing

Ms. DiCicco offered information regarding surfacing of roads. She read an article on a "popcorn-mix" surfacing that had recently been used to resurface I495 and a road in Hingham. This material is considered less noisy than usual pavement mixes. Mr. Crain responded by saying that the MTA is sensitive to their road resurfacing program, however, he feels that the type of surfacing used at present has both a non-skid quality and good durability. Ms. MacKenzie added that the road that Ms. DiCicco referred to in Hingham is a local road with different traffic characteristics.

Emergency Response Plan

Mr. Lawson mentioned Mr. Wallace's concern regarding preparation of an Emergency Response Plan as part of the DEIR and explained that the Authority wanted to respond to his request. It was decided that the December 16, 1987 meeting would begin at 3:00 p.m. and cover Water Supply, Surface Water and Wetlands. A special meeting on the Emergency Response Plan would be held at 5:00 p.m. with representatives from HNTB, MTA and the Surface Water Quality analysts. Mr. Lawson suggested that anyone concerned with this issue should plan on attending the extension of the meeting. Mr. Grilli added that there would be an agenda prepared and distributed to the LLG for use in deciding if other local officials should attend this meeting to bring up any concerns that they might have. It was agreed that the special meeting would address how the subject of impacts due to spills of hazardous materials would be addressed in the EIR.

The meeting was adjourned at 5:30.



1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

AIR QUALITY ANALYSIS

MESOSCALE IMPACT ANALYSIS

MICROSCALE ANALYSIS SENSITIVE RECEPTORS

LOCAL LIAISON GROUP MEETING
DECEMBER 2, 1987

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
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A I R Q U A L I T Y O U T L I N E

I. OBJECTIVES

- o Introduction to the Air Quality
- o Presentation of Mesoscale Results
- o Presentation of Microscale Receptors

II. METHODOLOGY

- o Mesoscale uses ADT volumes, speeds, lengths of roadways, EPA emissions rates.
- o Examined free-flow and queuing at tollgates separately.

III. RESULTS

- o CO and NMHC regional emissions decrease in 1989 and 1995 for the Build case.
- o NMHC decrease shows consistency with State Implementation Plan.
- o NMHC emissions improve during the Build condition due to shifts in traffic volumes, higher Turnpike speeds, and fewer delays at tollgates.
- o Microscale receptors include all locations suggested by Dr. Fay.

IV. QUESTIONS/COMMENTS



CHANGES IN FUTURE NMHC EMISSIONS WITH THE MTA PROJECT (KG/DAY)

DRAFT

1989

1995

OFF-TURNPIKE
(LOCAL) ROADWAYS

-13

-58

TURNPIKE

26

0

TOLL BARRIERS

-57

-49

TOTAL CHANGE

-44

-107

% CHANGE FROM NO-BUILD

-1%

-2%

% CHANGE FROM EXISTING

-15%

-40%

TOTAL NETWORK MESOSCALE EMISSIONS (KG/DAY)

DRAFT

	<u>CO</u>	<u>NMHC</u>	<u>NOx</u>
EXISTING (1987)	52,139	11,297	18,411
1989 NO-BUILD	42,099	9,684	16,777
1989 BUILD	41,591	9,640	16,793
1995 NO-BUILD	27,700	6,932	13,086
1995 BUILD	27,094	6,825	13,158



DRAFT

MASS. TURNPIKE AUTHORITY IMPROVEMENT PROJECT AIR QUALITY RECEPTOR LIST

Receptor No.	Location	Description
1	Interchange 14/15	Residence - 69 Oakland, Newton
2	Interchange 14/15	MDC Recreation Area
3	Interchange 14/15	Commercial (Fay #15)
4	Interchange 14/15	Residence - 3 Loring Road
5	Interchange 14/15	Commercial (Fay #14)
6	Interchange 14/15	Residence - 4 Glenfield East (Fay #4)
7	Interchange 14/15	Commercial - (Fay #13)
8	Interchange 14/15	Residence - 4 Orchard Ave. (Fay #12)
9	Interchange 14/15	Residence - South Ave. (Fay #3)
10	Interchange 14/15	Residence - 20 Nash Lane
11	Interchange 14/15	Residence - 23 South Ave (Fay #2)
12	Interchange 14/15	Residence - 23 South Ave.
13	Interchange 14/15	Residence - 134 South Ave. (Fay #10)
14	Interchange 14/15	Residence - 3 Young Rd. (Fay #1)
15	Interchange 14/15	Residence - 3 Young Rd.
16	Interchange 14/15	Across from 40 Orchard Ave. (Fay #11)
17	Interchange 14/15	Residence - 134 South Avenue
18	Interchange 14/15	Wooded Area at Rt. 30/Newton Street
19	Weston Mainline	Recreation - Ridge Trail Hiking Area
20	Weston Mainline	Residence - 11 Ridgeway Rd. (Fay #9)
21	Weston Mainline	Recreation - Beginnings Education Center
22	Weston Mainline	Residence - 264 South Ave. (Fay #8)
23	Weston Mainline	Recreation - Norumbega Reservoir
24	Weston Mainline	Residence - 34 Bittersweet Lane (Fay #7)
25	Weston Mainline	Recreation - Forest Trail Assn.
26	Weston Mainline	Recreation - Weston High School (Fay #6)
27	Weston Mainline	Recreation - Winter/Wellesley Consv. Land



DRAFT

28	Weston Mainline	Residence - 96/98 Brown St. (Fay #5)
29	Weston Mainline	Recreation - Wightman Tennis Center
30	Weston Mainline	Latvian Cultural Center (Fay #17)
31	Weston Mainline	Recreation - Camp Nonesuch
32	Natick/Weston Mainline	Residence - 803 South Ave. (Fay #16)
33	Wayland Mainline	Residence - 10 Haven Lane
34	Wayland Mainline	Recreation - Langdon Rd. Conservation Land
35	Wayland Mainline	Recreation - Lower Snake Brook Consv. Land
36	Natick Mainline	Church of Christ
37	Rt. 27/Rt. 30	Cochituate Motors Salesroom
38	Rt. 27/Rt. 30	Retail Stores Parking Lot
39	Rt. 27/Rt. 30	Cochituate Motors Service Center
40	Rt. 27/Rt. 30	Post Office
41	Service Area 8E	Commercial - Lashette Company
42	Service Area 8E	Residence - 19 Cypress Road
43	Service Area 8E	Open Land
44	Service Area 8E	Burger King Restaurant
45	Wayland Mainline	Cochituate State Park
46	Rt 30/Speen St	Gas Pumps
47	Rt 30/Speen St	Restaurant Parking
48	Rt 30/Speen St	Wetlands
49	Rt 30/Speen St	Gas Pumps
50	Interchange 13	Recreation-Cochituate State Park
51	Interchange 13	Office Building
52	Interchange 13	Office Building Parking Lot
53	Interchange 13	Retail Stores Parking Lot
54	Interchange 13	Red Roof Motel Parking Lot
55	Interchange 13	Office Building Parking Lot
56	Interchange 13	Open Space
57	Interchange 13	Zayre's Parking Lot
58	Rt 30/Shoppers World	CCW Communications
59	Rt 30/Shoppers World	Framingham Trust Company
60	Rt 30/Shoppers World	Framingham Mall Parking Lot
61	Rt 30/Shoppers World	Logan Express Bus Terminal
62	Framingham Mainline	Residence - 19 Cherry Street
63	Rt. 30/Rt. 126	Residence



DRAFT

64	Rt. 30/Rt. 126	Open Space
65	Rt. 30/Rt. 126	Commercial - Parking Lot
66	Rt. 30/Rt. 126	Residence - 199 Worcester Road
67	Rt. 30/Rt. 126	Residence - 845 Concord Street
68	Rt. 30/Rt. 126	Shell Gas Station
69	Rt. 30/Rt. 126	Residence - 843 Concord Street
70	Rt. 9/Country Club Ln.	Wooded Open Space
71	Rt. 9/Country Club Ln.	MDC Reservoir No. 3
72	Rt. 9/Country Club Ln.	Bus Stop
73	Rt. 9/Country Club Ln.	Recreation-Framingham Country Club
74	Interchange 12	Restaurant Parking Lot
75	Interchange 12	Residence-Apartment Complex
76	Interchange 12	Open Space near Tollbooth
77	Interchange 12	Hotel Parking Lot
78	Interchange 12	Restaurant Parking Lot
79	Interchange 12	Residence - 115 Gates Road
80	Southborough Mainline	Mary E. Finn School
81	Southborough Mainline	Residence - 205 Parkerville Road
82	Toll Barrier	Southborough/Westborough Line
83	Toll Barrier	Open Space
84	Toll Barrier	Open Space
85	Toll Barrier	Open Space
86	Toll Barrier	Open Space
87	Toll Barrier	Open Space
88	Toll Barrier	Open Space

Note: Receptors labeled Fay #1 through Fay #17 correspond to locations selected by Professor James Fay, consultant to the Town of Weston.

JAT/lg
(10/19/87)--J293L8



1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LIGHT IMPACT ANALYSIS

LOCAL LIAISON GROUP MEETING DECEMBER 2, 1987

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
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Phone: (617) 369-4213



LIGHT IMPACT ANALYSIS

OBJECTIVE:

To minimize stray light cast from the proposed facilities onto private property

METHODOLOGY:

Measure existing lighting conditions

Project future potential lighting conditions

Design lighting facilities to mitigate potential adverse impacts

MITIGATION MEASURES:

Location of light poles

Height of light poles

Type of light fixture

Shielding of light fixtures

Ground-mounted shielding (planting)





Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #8

November 18, 1987

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- o Review of agenda
 - o Review of Meeting Notes - September 16 meeting
- 3:40 TRAFFIC IMPACT ANALYSIS
Joseph Grilli, EIR Project Manager, Howard, Needles, Tammen and Bergendoff (HNTB)
Edward Bromage, Manager of Traffic Analysis and Design, Central Transportation Planning Staff (CTPS)
Christer Ericsson, Traffic Engineer, HNTB
- 4:35 IMPROVEMENT DESIGNS: Proposed Plans
Joseph Grilli, HNTB
Ronald Insanally, EIR Engineering Coordinator, HNTB
- 5:20 OTHER BUSINESS
- o Next meeting: **December 2, 1987 (proposed)**
 - o Future LLG meetings
- 5:30 Adjourn



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #8

MEETING NOTES
[Revised - January 25, 1988]

DATE: November 18, 1987
TIME: 3:30 p.m.
PLACE: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group:

Town of Framingham: John Bertorelli (substitute for Fred Sargeant)
Town of Natick: George Wallace; William Costello
Town of Southborough: Charles E. Gaffney; Janice C. Conlin
Town of Wayland: Theresa DiCicco
Town of Westborough: Larry Gomes; John Walden
Town of Weston: Jean Thurston; Richard Albrecht

Other Officials and Members of the Public:

Joanne Bissetta, TAB Newspapers
Rosamond Delori, Metrowest Planning Office
Veronica Palladino, Natick Resident
Ed Thorne, new Administrator for Town of Westborough
Adam Wesbane, TAB Newspapers

Massachusetts Turnpike Authority

M.C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Peg MacKenzie, Coordinator of External Affairs

Consultants:

Gary Walsh, Massachusetts Turnpike Authority Project Manager,
Howard Needles Tammen & Bergendoff (HNTB)
Joseph Grilli, EIR Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Christer Ericsson, Traffic Engineer, HNTB
Ronald Insanally, EIR Engineering Coordinator, HNTB
Edward Bromage, Central Transportation Planning Staff
Bill Steffens, Central Transportation Planning Staff
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson Associates
Elizabeth Mikulecky, Research Assistant, Barry Lawson Associates

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213



Barry Lawson opened the meeting, asked those present to introduce themselves, and presented the meeting's proposed agenda. Additions to "other business" included: Joe Grilli discussing the revised EIR schedule, Peg MacKenzie announcing MTA Chairman McKinnon's upcoming Framingham Breakfast Meeting, and George Wallace's request for incorporation of a MTA Emergency Response Plan as part of the EIR. Mr. Lawson then asked for comments on the meeting notes from the September 16 LLG meeting (#7). There were no changes and the notes were approved.

TRAFFIC IMPACT ANALYSIS

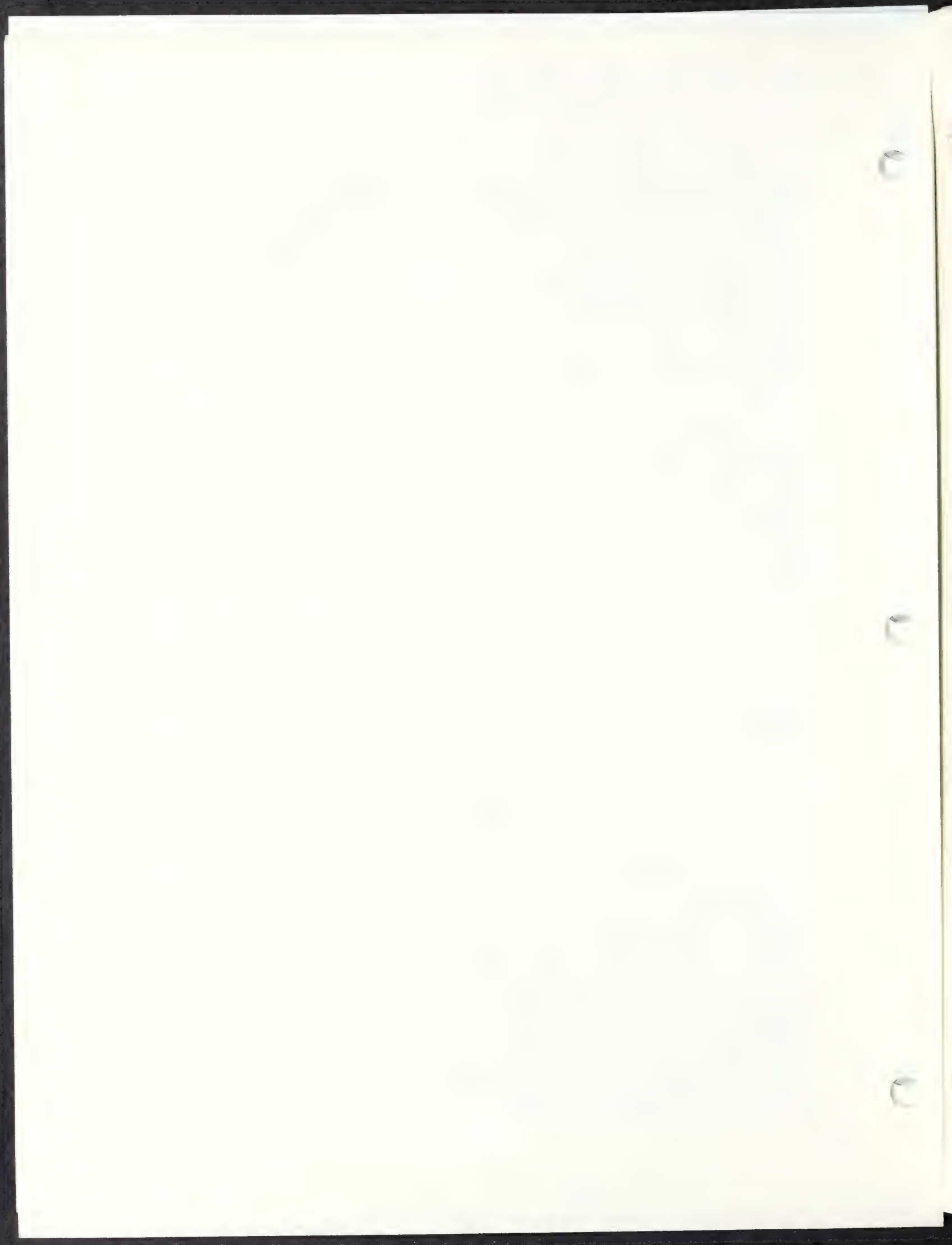
Joseph Grilli, EIR Project Manager, HNTB

Mr. Grilli, referring to overhead slides and a handout (see attached), reviewed some of the results of traffic analyses conducted on existing traffic conditions compared to 1995 "build" and "no build" projections. He mentioned that the Central Transportation Planning Staff (CTPS) has completed the traffic assignments and observed that resulting data show that the projected growth in traffic (1-4 % per year) may be less than originally anticipated. Mr. Grilli discussed volume and capacity comparisons between 1987 and 1995 Build versus No Build.

Mr. Grilli commented on several highlights of the studies (see handout materials attached):

- He compared 1987 traffic conditions to 1995 Build and 1995 No Build projections. Interchanges 12,13 and 14 are expected to have 4% annual growth rates in traffic, comparing the 1995 No Build volumes to 1987 volumes. 1995 Build traffic volumes will be higher than 1995 No Build by 1% to 6.5% on the Turnpike east of Interchange 12 due to the capacity improvements realized under the program. West of Interchange 12 and at Interchange 11A, 1995 Build volumes on the Turnpike will be 1-2% lower than 1995 No Build volumes.

- The studies are showing a higher carrying capacity in most areas of the Turnpike than a typical, six-lane freeway. A measurement of 1960 vehicles per hour per lane was made, at average speeds of 53 miles per hour. This measurement showed there was an average of 1.8 seconds (headway) between each vehicle (2.0 seconds is the desirable minimum headway). Mr. Grilli referred to a comment he had made at the August 5th LLG meeting that planners must seriously consider the negative safety implications of this combination of speed and headway. Mr. Crain agreed with Mr. Grilli about taking into consideration the negative safety implications of close spacing between vehicles. He said there have been many accidents, especially at this time of year, with the sun elevation causing difficulty for drivers to see clearly during peak hours.



- Mr. Grilli discussed mainline sections of the Turnpike during morning and afternoon peak hours. He said that the operating characteristics of traffic between Interchanges 11A-12 and 12-13 will experience little change from 1987 to 1995 either with or without the project. Level of Service (LOS) in the section between Interchanges 13-14 for 1995 No Build is projected to be 'F' (both a.m. and p.m) with traffic volume exceeding capacity for that area. In the section between 16-17 (Boston Extension), the LOS is projected to be 'F' under both the Build and No Build alternatives. Mr. Grilli noted that the LOS analysis for the study was based on the measurements taken on the Turnpike, which indicate better operating characteristics than the statistical data typically used. He reiterated that in designing a road the optimal LOS is 'C' ('D' in more urban environments) because this has enough "cushion" to absorb the effects of accidents, vehicles changing lanes and break-downs.

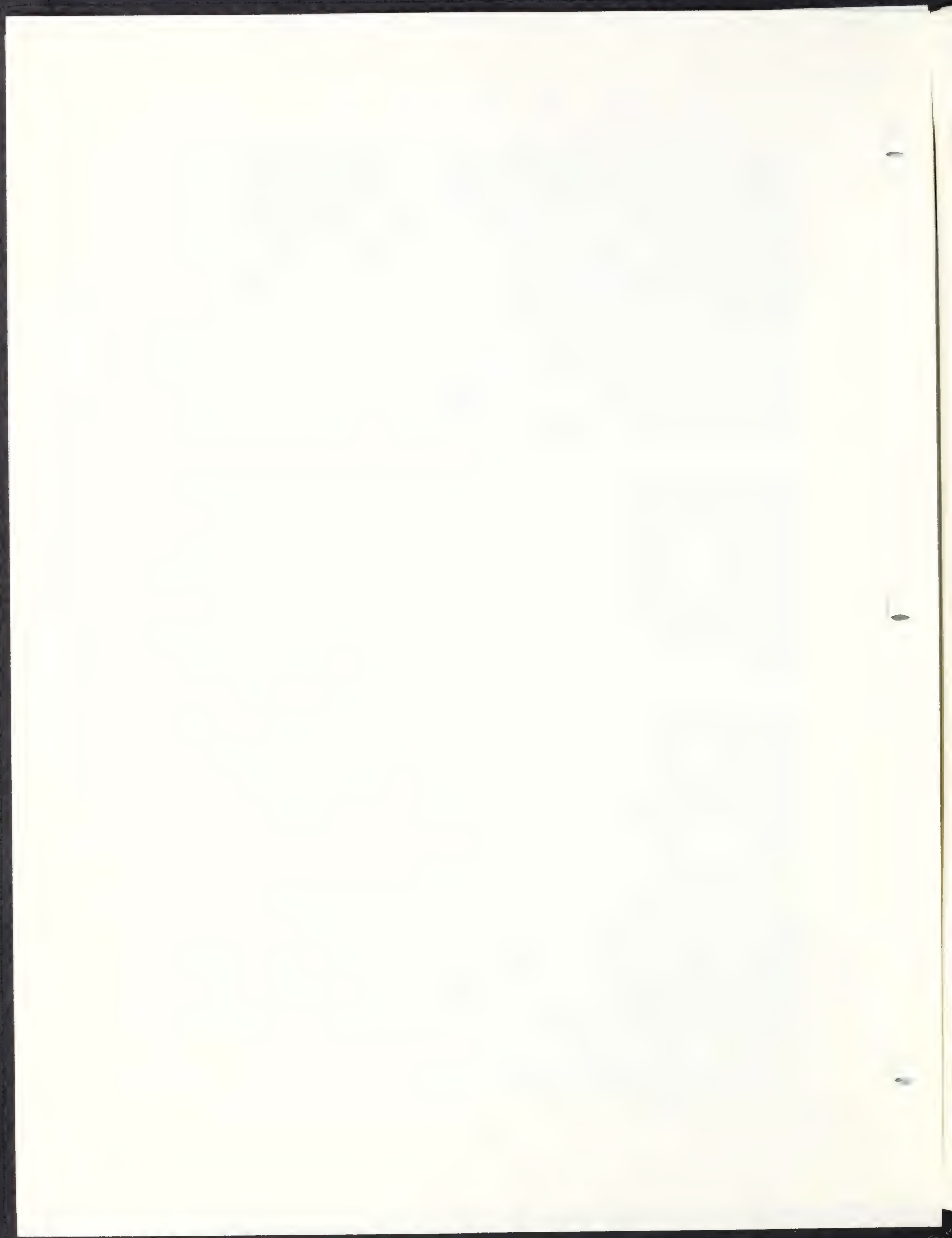
- Toll booth operating conditons studies suggest that traffic congestion at Interchange 12 under the No Build alternative will worsen, but will be improved to Level of Service 'D' by the removal of tolls for traffic to and from the west and by the conversion from ticket to coin toll for traffic to and from the east. Booths at Interchanges 14 & 15 will also be converted from ticket to coin toll under the Improvement Program. This will alleviate expected congestion and improve Levels of Service from LOS 'F' (No Build) to LOS 'D' (Build). At Interchange 13, the planned removal of all toll collection will eliminate toll plaza congestion here.

- The ramp analysis shows that 1987 traffic volumes on certain ramps at Interchange 12, 13 and 14 result in traffic congestion during at least one peak hour. Generally, this condition will worsen under the 1995 No Build Alternative. Where ramp improvements are proposed under the Build Alternative (Interchanges 13 and 14), increased ramp capacity will result in the same or better Levels of Service than under the No Build alternative.

Comments and Discussion Points

- Mr. Albrecht asked what the benefit of adding a lane on the section between 13-14 is and whether it is the toll booth barrier that is responsible for traffic congestion. Mr. Grilli explained that the addition of a lane to the mainline section would relieve traffic congestion on the mainline. Toll booth congestion at Interchange 14 will be alleviated by the planned conversion from ticket to coin tolls. Ramp congestion at Interchange 14 will be relieved by the planned widening of these ramps.

- Mr. Wallace asked if the back up of traffic at the ramp at Interchange 13 was due to an inability to get onto Route



30. Mr. Grilli responded that the back up on the ramp was primarily due to inadequate toll plaza capacity.

- Mr. Gomes asked if, as level of service drops, traffic goes to alternate routes and was this a part of the no build analysis. Mr. Bromage responded that the traffic model takes into account all capacities and diversions on routes within the study area.

- Barry Lawson asked whether level of service is calculated differently for ramps, mainline areas and other areas. Mr. Grilli explained that it is.

- Mr. Gomes asked what the anticipated percent growth had been prior to these studies which are showing lower rates of growth (3-4%). Mr. Grilli said that the previous, preliminary studies, used future growth rates based on historic trends of 5-6% per year.

- Barry Lawson asked if there had been an analysis of the Boston Extension between Interchanges 15 and 16. Mr. Grilli replied that that section is a lower volume area and experiences less difficulty than the section of the Extension between Interchanges 16 and 17. Therefore, it was not focused on in the study.

- Mr. Gaffney asked whether the 9-90 project was considered in the analysis. Mr. Grilli explained that the project was taken into account to the degree that it would be developed by 1995.

- Ann Jacobson asked if there were any off-Turnpike road sections that show improvement when comparing the Build option to the No Build. Mr. Grilli stated that most of the 25 off-Turnpike intersections evaluated will not experience a change in Level of Service as a result of the project because the traffic volume changes are minor. Three locations will experience a modest degradation in service and two locations will experience a modest improvement.

IMPROVEMENT DESIGNS

Joseph Grilli, EIR Project Manager, HNTB

Mr. Grilli used colored engineering designs to describe the proposed improvements. He explained that there were some modifications to what had previously been planned. The changes at the barrier toll plaza in Westborough/Southborough include: a new, one-story maintenance building; employee parking increased to 60 spaces; and modifications to the siting and plaza layout to minimize wetlands impacts. He showed that the toll plaza would be approximately 350 feet in width at the toll booth area with 19 toll lanes (18 booths), and that the total taking, not including all of the area needed for wetlands replication, would be about 17 acres. He

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also noted that these plans would be fine-tuned as impact analyses were completed.

Mr. Grilli explained that the toll plaza at Interchange 12 would be modified to allow non-stop passage to and from the west. A new employee turn-around will be constructed. There will be no property taking at Interchange 12.

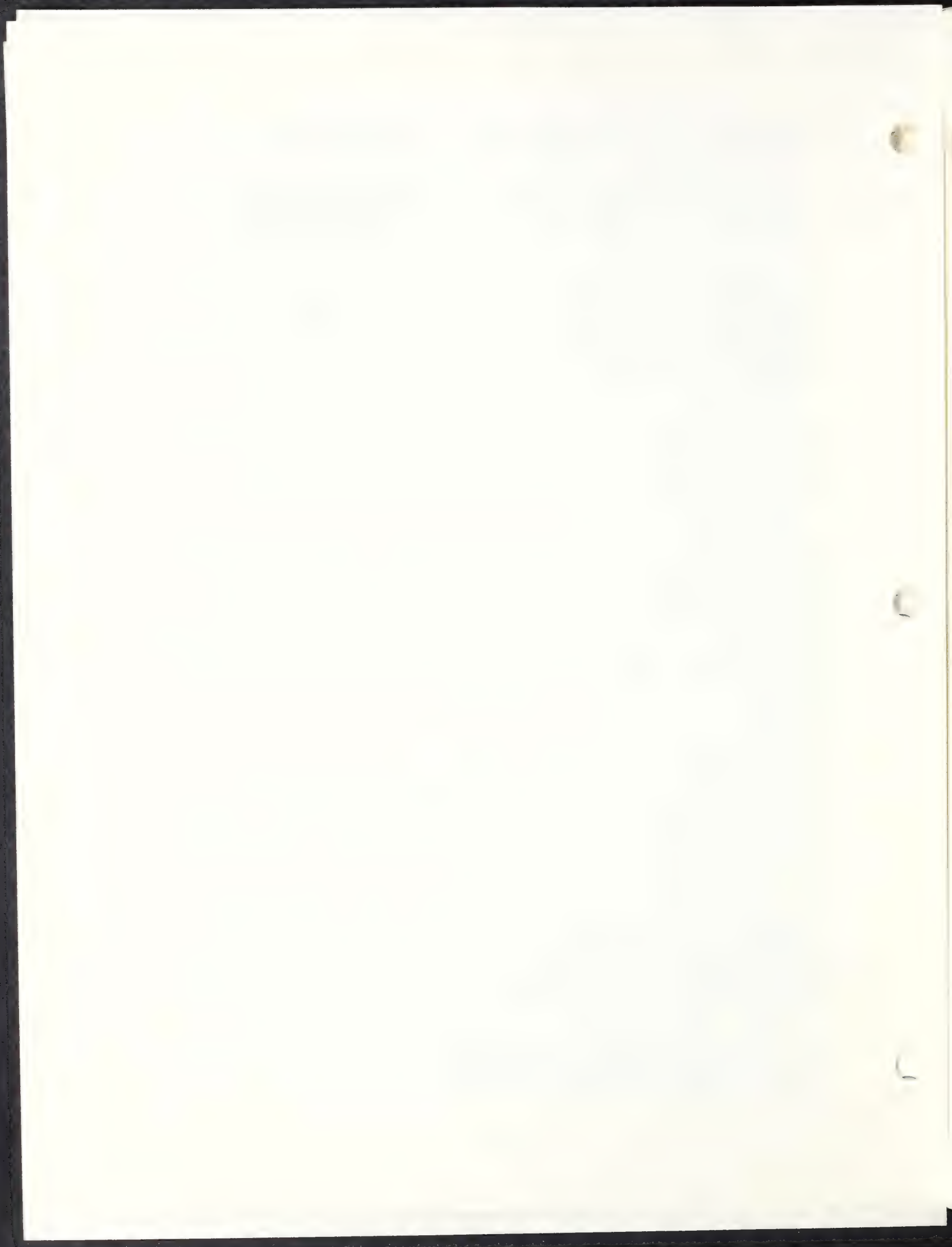
At Interchange 13, the toll booths will be removed and the ramps and mainline will be widened, including widening the bridges over Speen Street and the B&A Railroad. The improvements could include a retaining wall along the edge of Lake Cochituate, however, the method of widening in this area is still being evaluated so that any filling of Lake Cochituate can be avoided.

Changes at Interchange 14 include changing of equipment at the toll booths from ticket to coin collection, and relocating and widening the eastbound exit ramp from two to three lanes for smoother and safer traffic flow. The westbound on-ramp will also be widened with a truck climbing lane provided.

Mr. Grilli discussed Service Area 8E. He said that the design for the truck parking area had been changed to reflect changes in assumptions about future truck traffic (e.g., now assumed at 2-3% growth per year, not the 8% annual growth assumed earlier). The expansion will be in two phases: 49 additional spaces will be added to the current 30 spaces, for a total of 79 spaces. Twelve additional spaces will be built in the second phase if later demand dictates. The EIR will evaluate the impacts of 91 spaces.

Comments and Discussion Points

- Several LLG members commented that these seem to represent some major changes from the project as described in the ENF and were concerned about how they should be reflected in the EIR. Mary Beth Martin noted that it is a requirement of MEPA to identify any changes from the ENF in the EIR. The EIR will evaluate the project as it is now.
- Ms. DiCicco expressed concern that there would be an impact on homes in Weston associated with the proposed Interchange 14 improvements on the eastbound side. Mr. Grilli and Mr. Crain responded that the proposed deceleration lane will be added to the already existing breakdown lane and that all work would be within existing MTA property lines.
- Mr. Gaffney asked if there would be an emergency lane on the westbound side west of Interchange 14 in addition to the truck climbing lane. Mr. Grilli said that the project had allowed sufficient area for accommodating emergency



breakdowns (a 4 foot breakdown lane in addition to the 12 foot climbing lane).

- Ms. DiCicco asked about the impact on pleasure boating in Lake Cochituate if consideration is being given to filling in part of the lake to accommodate the Turnpike widening. Mr. Grilli responded that they would be looking into the impact of this option, and that the decision has not yet been made. Mr. Crain added that the Authority would examine this carefully and look at all feasible means to avoid adverse impacts. Mr. Wallace warned of considerable Corps of Engineers involvement if the filling were proposed. Mr. Grilli assured the LLG members that the Authority will be looking at measures that make sense in minimizing adverse impacts while maintaining highway safety.

- Several LLG members brought up the issue of overnight truck parking at Service Area 8E, asked why it is allowed by the MTA, and expressed concern over the impact it has on neighboring homes. There was concern that the existing condition would only worsen with additional spaces.

- Veronica Palladino, a resident of Cypress Road, abutting 8E, noted that her sleep was continually disturbed by truck engines running during the night. In addition, she noted that the current and proposed alignments for parking spaces discourage trucks from using some of the spaces because of awkward parking maneuvers required.

- Bill Costello added that the Authority could show "good faith" by insuring that the truck parking laws were enforced properly now. He and Mr. Albrecht asked the Authority to consider the option of eliminating the 8E Service Area completely. Mr. Grilli said they would take it under advisement.

OTHER BUSINESS

The meeting closed with the proposal for the next meetings: December 2 (Air Quality, Lighting), December 16 (Wetlands, Water Quality and Surface Water) and January 6 (Noise and Recreation). The revised EIR schedule includes public meetings (one in the east portion, another in the west) on January 19-20. The Draft EIR would then be completed and submitted to MEPA. A hearing on the Draft EIR would be scheduled within the official review period.

Peg MacKenzie invited the LLG to a breakfast meeting at 8:00 am on Friday, November 20, 1987, in Framingham with Chairman McKinnon and local area officials and legislative representatives. She apologized for not informing LLG members earlier, but added that the meeting was not called to discuss the EIR improvement project specifically.

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George Wallace, referencing a recent truck spill in Westborough, asked if there was an MTA Emergency Response Plan available to the public. Mr. Crain responded that the Massachusetts State Police are the responsible authority in the case of emergency. He offered for LLG viewing the State Police Manual containing the protocol for emergencies. Mr. Wallace suggested that the Emergency Response Plan should be a public document, should be included in the EIR, and that the Authority or State Police should initiate coordination discussions with area town officials on the implementation of the protocol.

The meeting was adjourned at 5:45 p.m.

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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

TRAFFIC IMPACT ANALYSIS

LOCAL LIAISON GROUP MEETING

NOVEMBER 18, 1987

Technical Consultants

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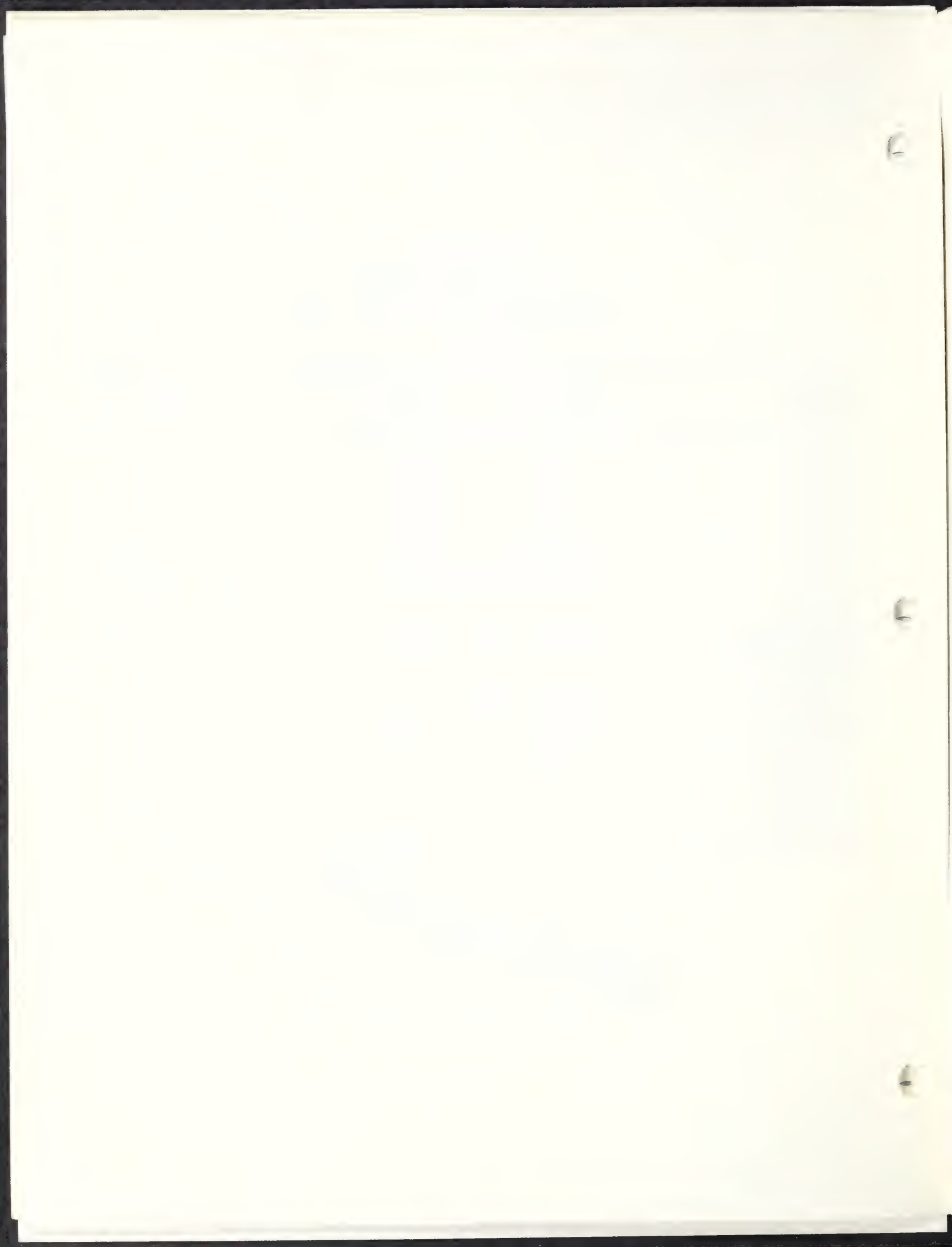
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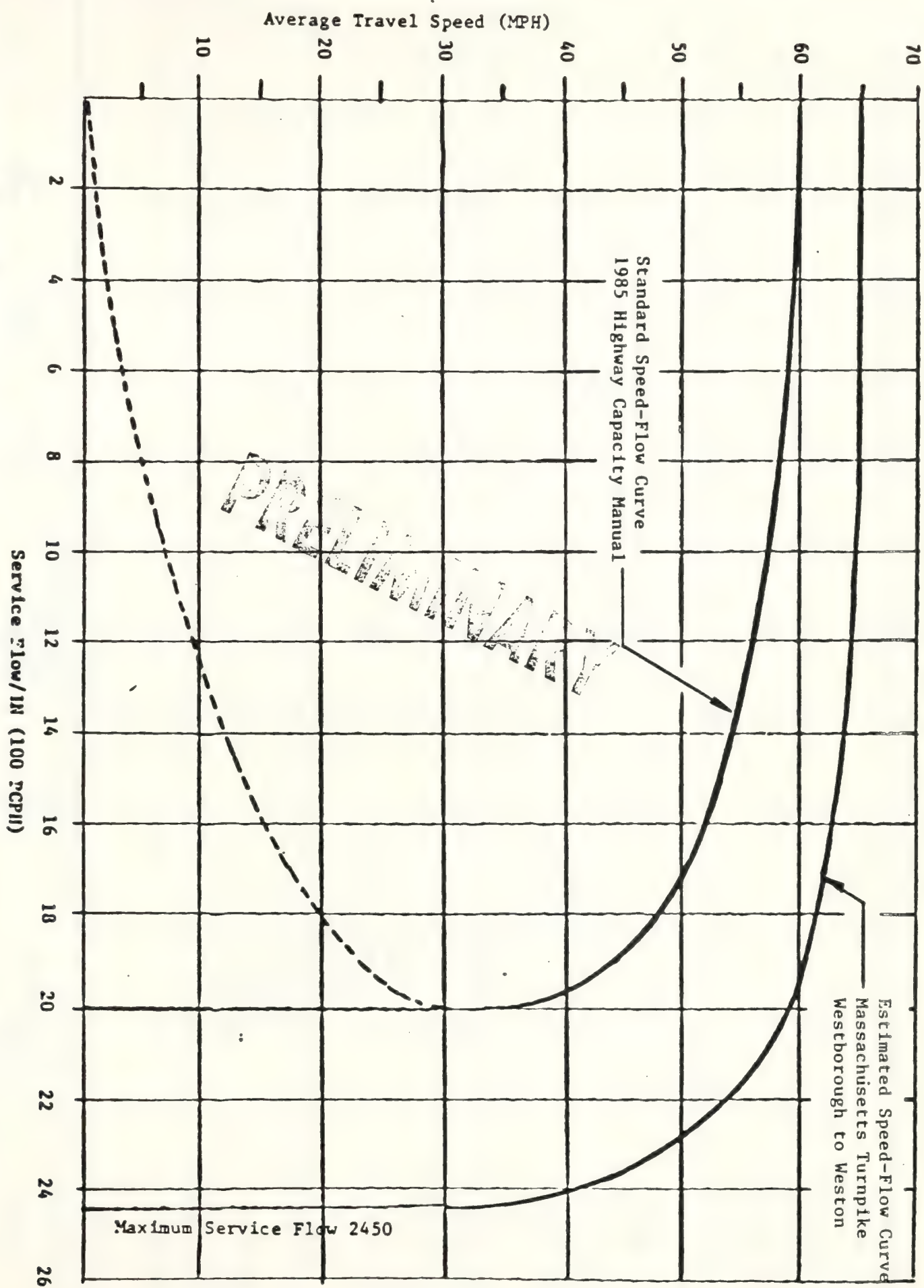
MASSACHUSETTS TURNPIKE
AVERAGE WEEKDAY DAILY TRAFFIC (AWDT)

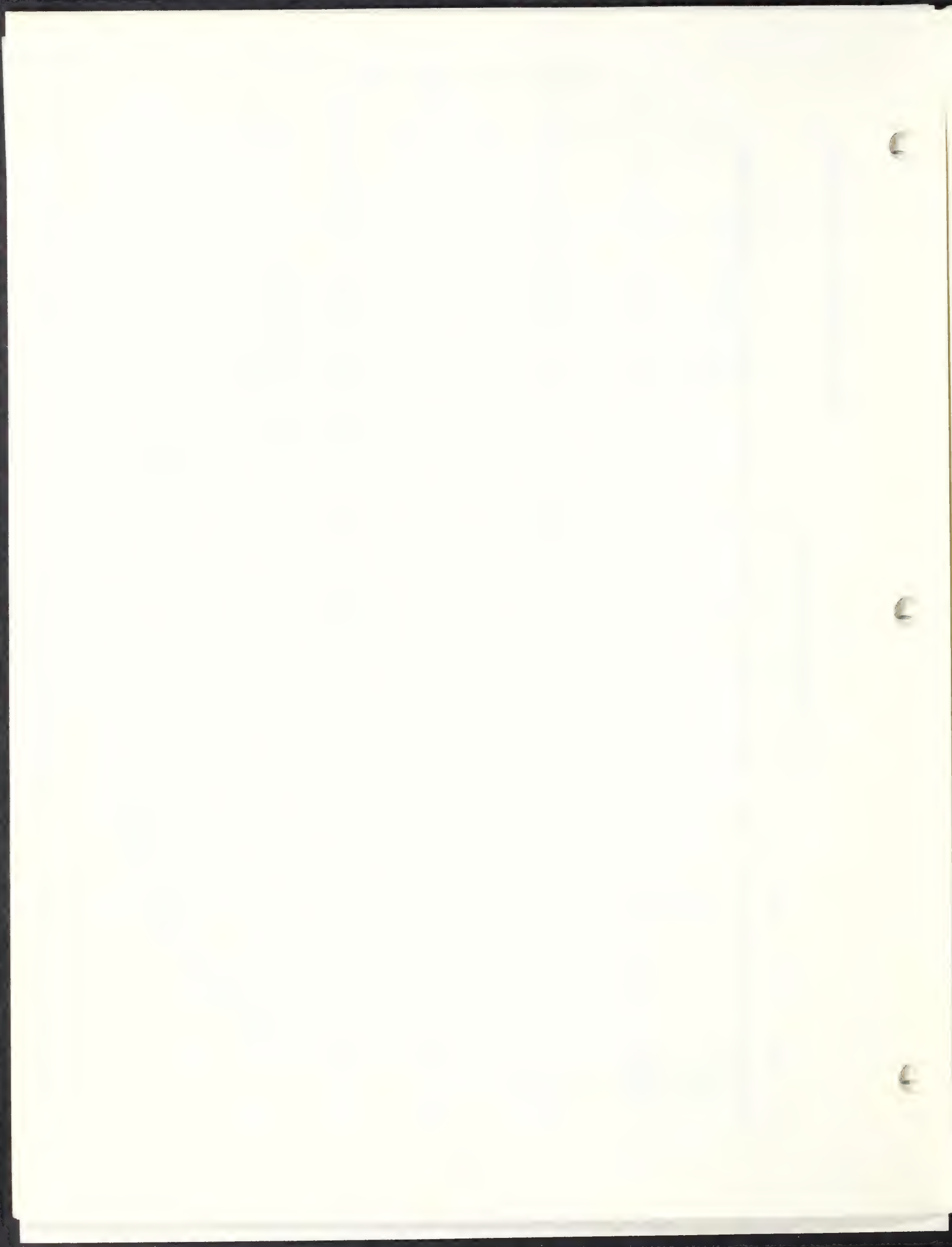
LOCATION	1987 AWDT (TWO-WAY)	1995 (NO BUILD) AWDT (TWO-WAY)	1995 (BUILD) AWDT (TWO-WAY)
11A TO 12	63,800	69,330	68,290
12 TO 13	78,600	84,180	84,490
13 TO 14	101,400	124,180	128,350
16 TO 17	109,600	120,500	120,500
INTERCHANGE 15 (Barrier Only)	51,000	55,700	56,240
INTERCHANGE 15 (I-95/RT 30)	46,800	49,700	51,200
INTERCHANGE 14	50,400	68,480	72,110
INTERCHANGE 13	41,900	58,280	62,160
INTERCHANGE 12	24,400	33,210	34,200
INTERCHANGE 11A	36,800	45,030	44,130

PRELIMINARY



* Valid for 70 mph Design Speed

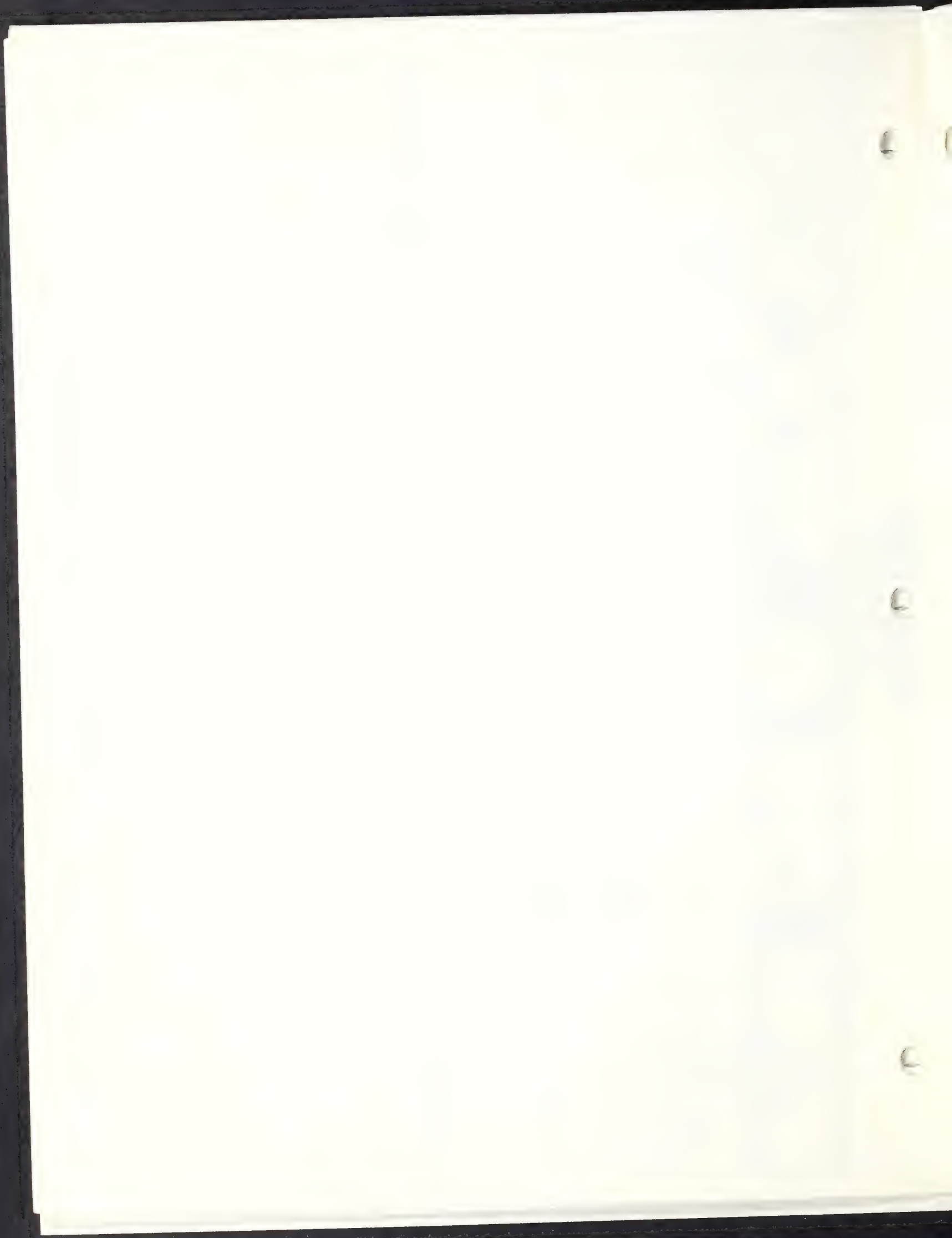




MASSACHUSETTS TURNPIKE
Operating Characteristics
AM Peak Hour (EB)

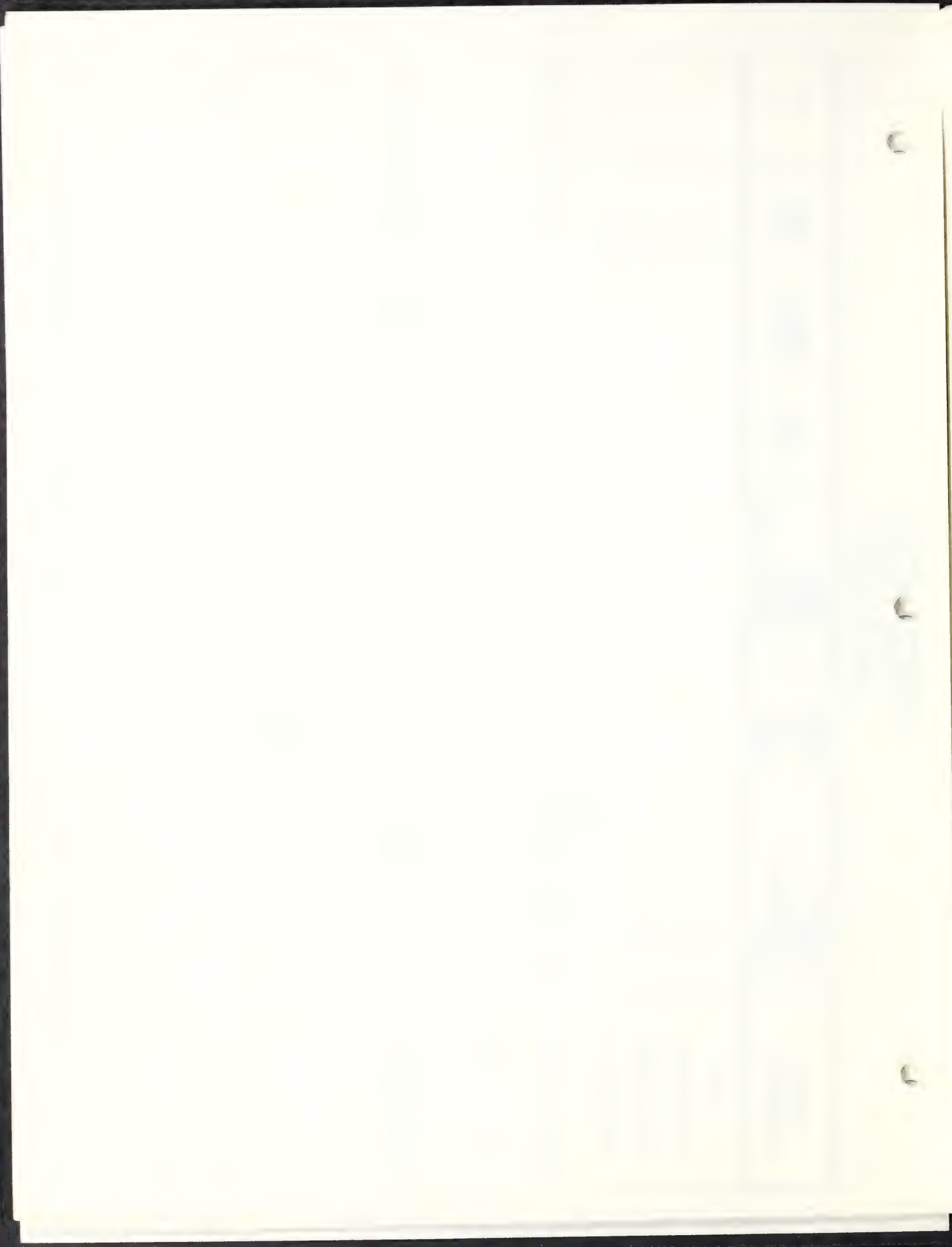
Mainline Segments

LOCATION (MAINLINE)	PEAK HOUR VOLUME PEAK DIRECTION (VPH)	SERVICE FLOW RATE (PCPH)	MAXIMUM SERVICE FLOW RATE (CAPACITY) (PCPH)	V/C RATIO	DENSITY (PC/MI/LN)	SPEED (MPH)	LOS
11A-12							
1987 EXISTING	3920	4550	7370	.62	24	63	C
1995 NO BUILD	4350	5050	7370	.69	27	63	C
1995 BUILD	4280	4970	7370	.67	26	63	C
12-13							
1987 EXISTING	4840	5620	7370	.76	31	61	C
1995 NO BUILD	5010	5820	7370	.79	32	60	D
1995 BUILD	5000	5810	7370	.79	32	60	D
13-14							
1987 EXISTING	5880	6830	7370	.93	44	52	D
1995 NO BUILD	6400	7430	7370	1.01	83	30	F
1995 BUILD	6750	7840	9830	.80	33	60	D
16-17							
1987 EXISTING	6340	7360	7370	1.00	82	30	E
1995 NO BUILD	6650	7720	7370	1.05	86	30	F
1995 BUILD	6650	7720	7370	1.05	86	30	F



MASSACHUSETTS TURNPIKE
Operating Characteristics
PM Peak Hour (wB)
Mainline Segments

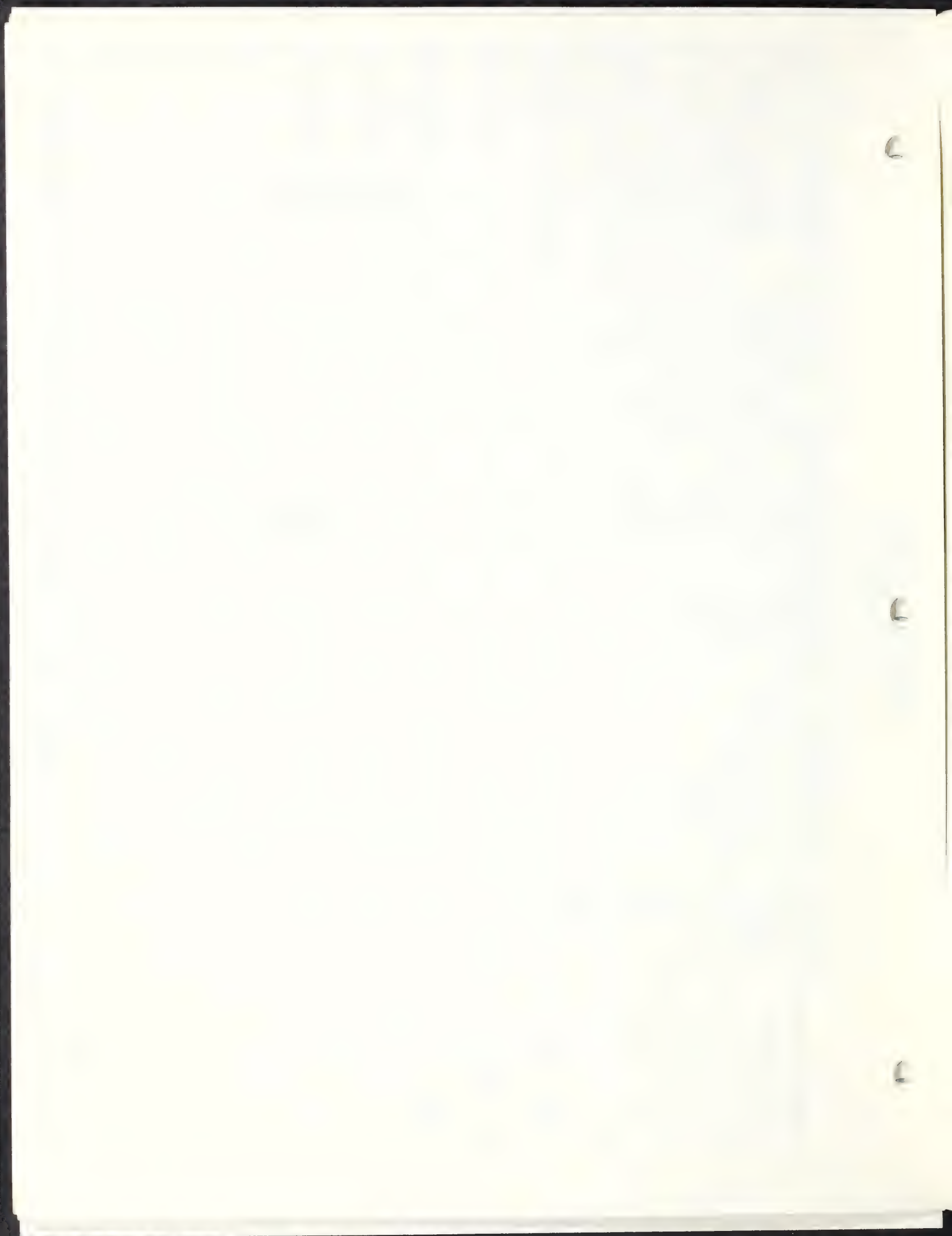
LOCATION (MAINLINE)	PEAK HOUR VOLUME PEAK DIRECTION (VPH)	SERVICE FLOW RATE (PCPH)	MAXIMUM SERVICE FLOW RATE (CAPACITY) (PCPH)	V/C RATIO	DENSITY (PC/MI/LN)	SPEED (MPH)	LOS
11A-12							
1987 EXISTING	3630	4210	7370	.57	22	64	C
1995 NO BUILD	3950	4590	7370	.62	24	63	C
1995 BUILD	3750	4350	7370	.59	23	64	C
12-13							
1987 EXISTING	4730	5490	7370	.74	30	61	C
1995 NO BUILD	5070	5890	7370	.80	33	60	D
1995 BUILD	5240	6080	7370	.82	34	59	D
13-14							
1987 EXISTING	5760	6690	7370	.91	42	53	D
1995 NO BUILD	6520	7470	7370	1.03	84	30	F
1995 BUILD	7150	8300	9830	.84	35	59	D
16-17							
1987 EXISTING	6340	7360	7370	1.00	82	30	E
1995 NC BUILD	6770	7860	7370	1.07	87	30	F
1995 BUILD	6770	7860	7370	1.07	87	30	F



MASSACHUSETTS TURNPIKE
Operating Characteristics
Toll Booths

Interchange	1987 Existing				1995 No Build				1995 Build			
	Peak Hour Volume	Toll Capacity (# Lanes)	V/C Ratio	Peak Hour Volume	Toll Capacity (# Lanes)	V/C Ratio	Peak Hour Volume	Toll Capacity (# Lanes)	Peak Hour Volume	Toll Capacity (# Lanes)	V/C Ratio	V/C **
12 (PM)	Exit	1500	2000 (5)	.83	1605	2000 (5)	1.00	3000 (4)	2205	3000 (4)	.82	
	Enter	1100	1200 (2)	1.02	1700	1200 (2)	1.57	2100 (3)	1616	2100 (3)	.85	
13 (PM)	Exit	2050	2000 (5)	1.14	2385	2000 (5)	1.32	NA	NA	NA	NA	
	Enter	1910	1800 (3)	1.10	2765	1800 (3)	1.71	NA	NA	NA	NA	
14 (PM)	Exit	1940	3200 (8)	.67	2995	3200 (8)	1.04	4500 (6)	3240	4500 (6)	.80	
	Enter	2930	2400 (4)	1.35	3525	2400 (4)	1.63	5100 (7)	4040	5100 (7)	.88	
15 (PM)	Exit	1720	2800 (4)	.68	2010	2800 (7)	.80	3000 (4)	2020	3000 (4)	.75	
	Enter	2830	2400 (4)	1.31	2995	2400 (4)	1.39	4500 (6)	3115	4500 (6)	.77	
15 (Local)	Exit (PM)	2830	3600 (5)	.87	3055	3600 (5)	.94	4500 (6)	2935	4500 (6)	.72	
	Enter (AM)	2740	3600 (5)	.85	2900	3600 (5)	.89	4500 (6)	2870	4500 (6)	.71	
11B (AM)	Exit	NA	NA	NA	NA	NA	NA	5600 (14)	4285	5600 (14)	.85	
	Enter	NA	NA	NA	NA	NA	NA	3000 (5)	2170	3000 (5)	.80	

* IN VEHICLES PER HOUR ** VOLUME IS SERVICE FLOW RATE (PHP - .90)



MASSACHUSETTS TURNPIKE
Operating Characteristics
AM Peak Hour
Turnpike Ramps

INTERCHANGE	1987 EXISTING				1995 NO BUILD				1995 BUILD			
	PEAK HOUR RAIP VOLUME *	RAIP LOS	MERGE/ DIVERGE LOS	PEAK HOUR RAIP VOLUME*	RAIP LOS	MERGE/ DIVERGE LOS	PEAK HOUR RAIP VOLUME*	RAIP LOS	MERGE/ DIVERGE LOS	PEAK HOUR RAIP VOLUME *	RAIP LOS	MERGE/ DIVERGE LOS
11A	EB OFF	570	A	757	A	C	757	A	C	757	A	C
	EB ON	1940	F	2220	F	F	2220	F	F	2150	F	F
	WB OFF	1070	E	1193	E	C	1193	E	C	984	D**	E
	WB ON	410	C	546	C	A	546	C	B	556	C	B
12	EB OFF	360	C	510	C	C	510	C	D	543	C	D
	EB ON	1280	F	1169	F	F	1169	E	F	1256	F	F
	WB OFF	910	C	1068	C	C	1068	D	D	1187	E	D
	WB ON	130	D**	186	D**	A	186	D**	A	85	D**	A
13	EB OFF	770	D**	736	D**	E	736	D**	E	677	D**	E
	EB ON	1810	F	2135	F	F	2135	F	F	2428	F***	E
	WB OFF	1280	E	1829	E	E	1829	F	F	2076	D***	C
	WB ON	280	D**	304	D**	A	304	D**	A	272	D**	B
14	EB OFF	2940	F***	3331	F***	F	3331	F***	F	3653	E****	D
	WB ON	1230	C***	2916	C***	D	2916	E***	E	3129	D****	E

* VOLUME EXPRESSED IN VPH.

** LOS C NOT ATTAINABLE DUE TO DESIGN SPEED.

*** TWO LANE RAIP

**** THREE LANE RAIP.

MASSACHUSETTS TURNPIKE
Operating Characteristics
PM Peak Hour
Turnpike Ramps

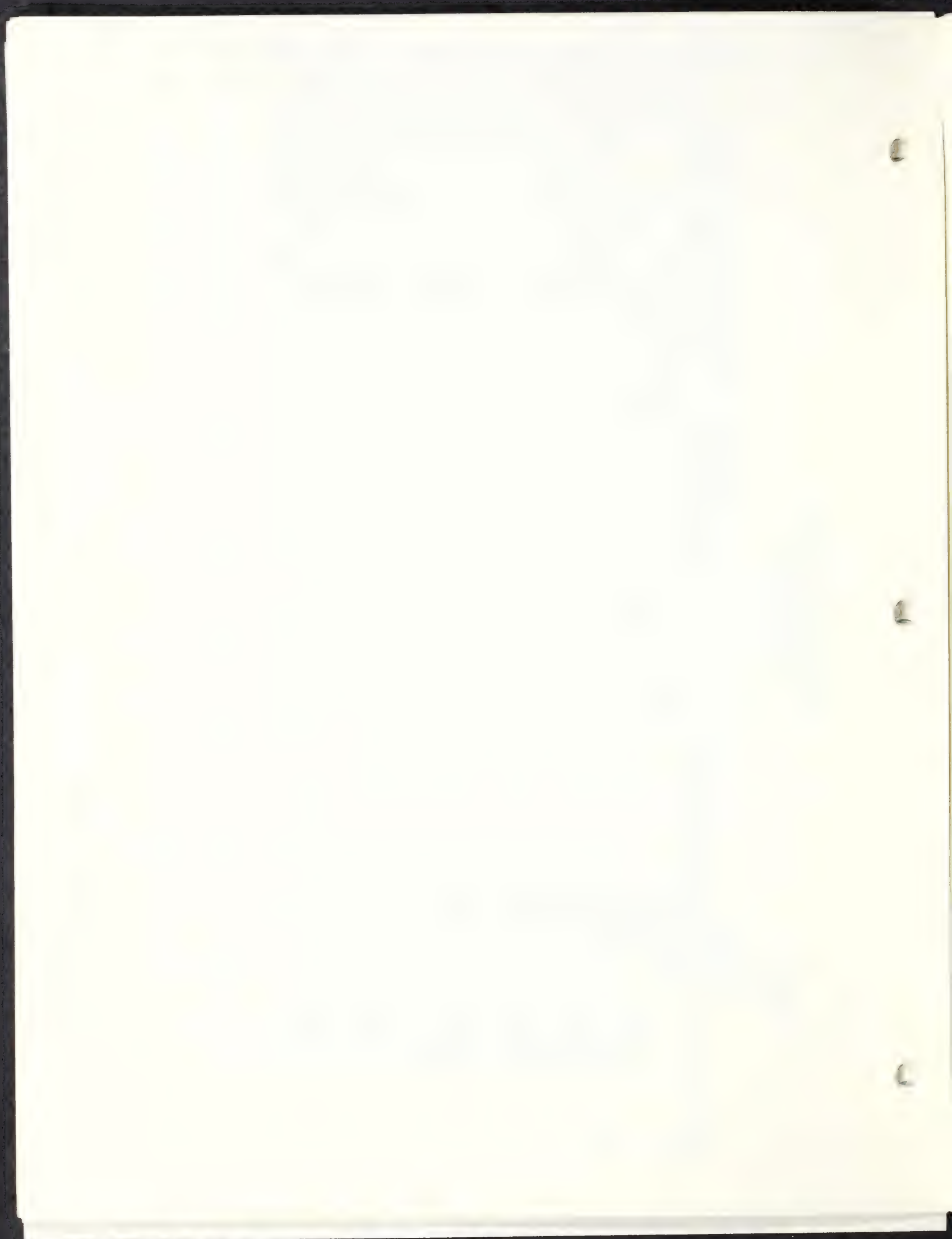
INTERCHANGE	1987 EXISTING				1995 NO BUILD				1995 BUILD			
	PEAK HOUR RAMP VOLUME *	RAMP LOS	MERGE/ DIVERGE LOS	PEAK HOUR RAMP VOLUME *	RAMP LOS	MERGE/ DIVERGE LOS	PEAK HOUR RAMP VOLUME *	RAMP LOS	PEAK HOUR RAMP VOLUME *	MERGE/ DIVERGE LOS	RAMP LOS	MERGE/ DIVERGE LOS
11A	EB OFF	410	A	B	622	A	B	A	622	B	A	B
	EB ON	880	C	C	774	C	C	C	861	C	C	C
	WB OFF	1580	F	E	1683	F	F	F	1494	F	F	E
	WB ON	540	C	B	782	C	C	C	797	C	C	C
12	EB OFF	1700	C	B	263	C	B	C	500	B	C	B
	EB ON	880	D**	C	1277	F	D	F	1398	D	F	E
	WB OFF	1330	E	F	1540	F	F	F	1703	F	F	F
	WB ON	230	D**	A	419	D**	B	D**	209	B	D**	B
13	EB OFF	300	D**	B	226	D**	C	D**	205	C	D**	C
	EB ON	1190	E	E	2055	F	F	F	2320	F	E***	D
	WB OFF	1750	F	F	2158	F	F	F	2727	F	F***	F
	WB ON	720	D**	D	708	D**	D	D**	815	D	D**	F
14	EB OFF	1940	E***	C	2994	F***	F	F***	3241	F	D****	C
	WB ON	2930	E***	F	3525	F***	F	F***	4547	F	F****	F

* VOLUME EXPRESSED IN VPH

** LOS C NOT ATTAINABLE DUE TO DESIGN SPEED.

*** TWO LANE RAMP

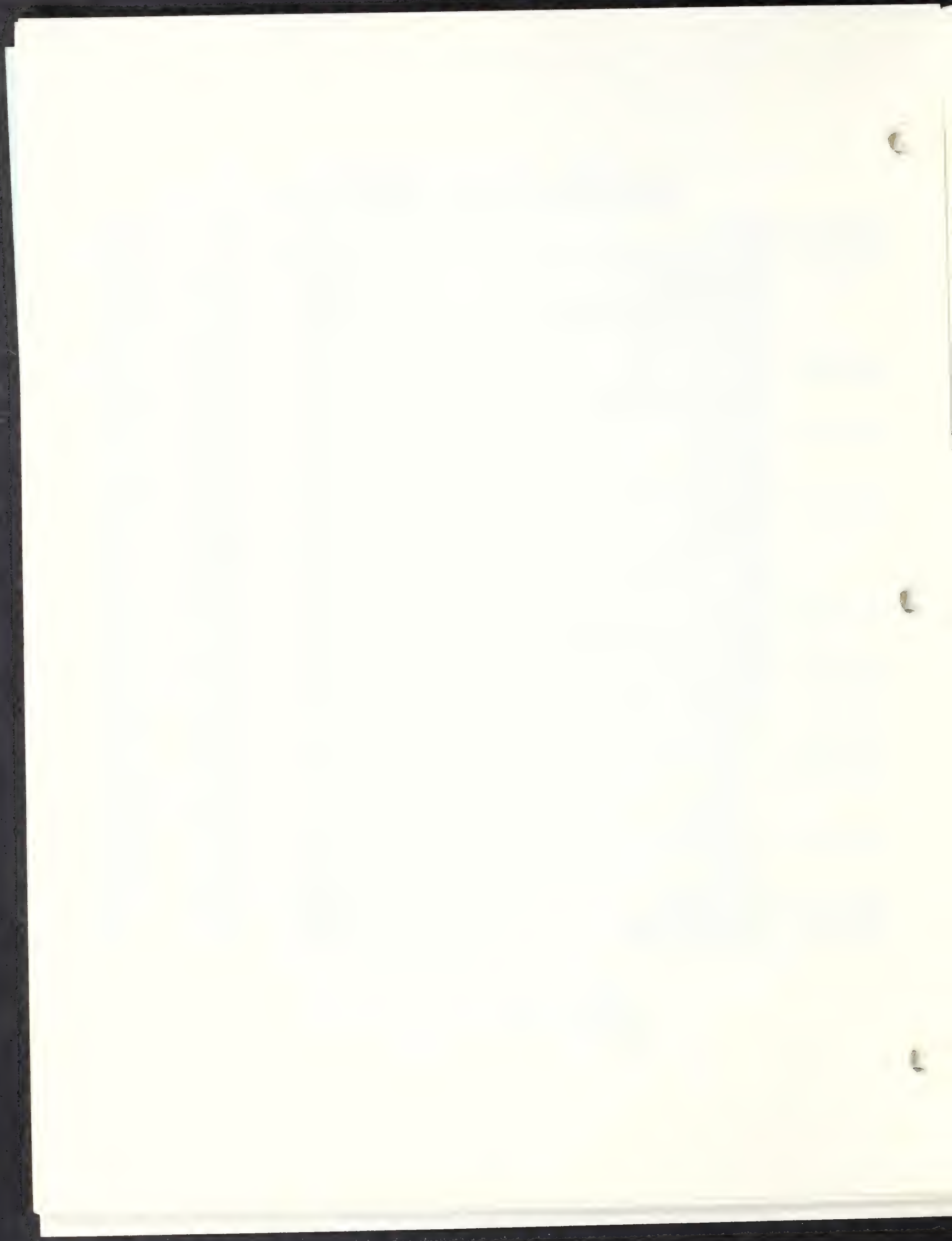
**** THREE LANE RAMP



Massachusetts Turnpike Authority
Local Roadway Average Weekday Traffic

LINK (Location)	1987	1995	1995 Build
Route 9 (Between 128-16)	48125	56430	55385
(Oak-Walnut)	57200	73920	72985
(Framingham Natick TL)	46695	69465	69465
(Temple-Country Club)	42460	57585	57145
(East of 495)	35970	44440	45650
Route 16 (128-9)	25575	30250	30250
Route 20 (East of 495)	19250	32725	33055
(Nobscot-Landham)	18370	20515	20515
(Weston Wayland TL)	26400	30250	29700
Route 27 (135-9)	16665	20405	20405
(Pine-30)	15565	16720	16775
(30-126)	10780	12430	12430
(North of 20)	9350	10175	10230
Route 30 (Ridgeway-Newton)	17655	17765	17875
(Oak-27)	12485	12980	12485
(27-Speen)	14795	16390	16445
(Shoppers World)	27390	34595	34815
(East of 85)	8085	7755	7755
(West of 495)	23100	28490	28490
Route 126 (135-9)	14410	19745	19690
(Wayland Framingham TL)	10230	12210	11550
(North of 20)	6490	7755	7700
Route 135 (East of 27)	22605	24585	24035
(Ashland Framingham TL)	16225	17435	17435
Speen St (135-9)	19580	24530	24255
(9-30)	31240	35640	35640
Wellesley (Glenn-Bogle)	8085	10395	9625
Route 85 (90-9)	6050	6985	6930
(9-30)	9790	10560	10560
Route 128 (9-16)	107085	119625	119185
(16-90)	110880	129085	127930
(90-20)	137830	174185	175450
Route 495 (South of 90)	53900	59345	59345
(90-9)	50930	61270	60500
(90-20)	51040	67540	67705
Edgell Rd (Edmands-9)	17490	20295	20185
Union St (South of Wayte)	22330	25135	25190
Flanders (at Access Dr)	3410	3410	3575

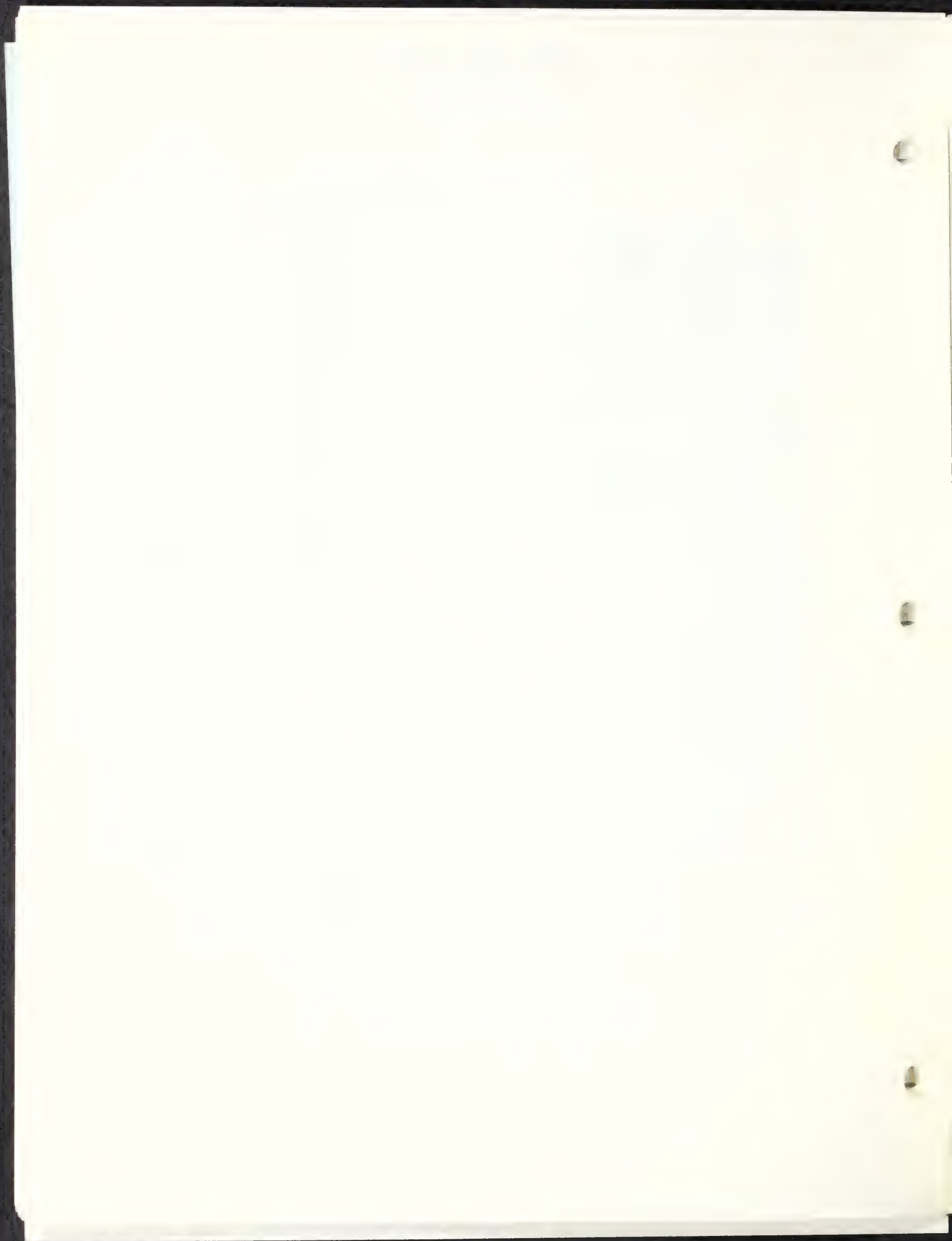
PRELIMINARY



MASSACHUSETTS TURNPIKE
Operating Characteristics
PM Peak Hour
Intersection Analysis

LOCATION	TOTAL APPROACH VOL.		
	1987 EXISTING	1995 NO BUILD	1995 BUILD
RTE 9 - RTE 16 (EASTERN)	2470	2660	2890
RTE 9 - RTE 16 (WESTERN)	2350	2650	2790
RTE 9 - SPEEN (HILTON)	2830	2880	3010
RTE 9 - SPEEN (NATICK MALL)	3630	3990	4020
RTE 9 - SPEEN (HARTFORD ST)	4030	4630	4680
RTE 9 - EDGELL (NORTHERN)	3120	3430	3550
RTE 9 - EDGELL (SOUTHERN)	3110	3620	3720
RTE 9 - TEMPLE	4500	6040	5920
RTE 16 - 135 (EASTERN)	2660	2970	3060
RTE 16 - 135 (WESTERN)	2960	3370	3290
RTE 20 - 27/126	3110	3480	3530
RTE 20 - NOBSCOT	2230	2520	2490
RTE 27 - 135	2930	3770	3530
RTE 27 - 30	2500	2800	2920
RTE 27 - 126	1760	2280	2140
RTE 30 - PARK	2380	2790	2870
RTE 30 - NEWTON	2180	2180	2200
RTE 30 - SPEEN	4610	5360	5540
RTE 30 - SHOPPERS WORLD	3800	5170	5290
RTE 30 - 126	3860	4500	4610
RTE 126 - 135	3230	4230	4180
RTE 126 - SPEEN	2160	2850	2670
RTE 135 - SPEEN	2520	3300	3090

PRELIMINARY



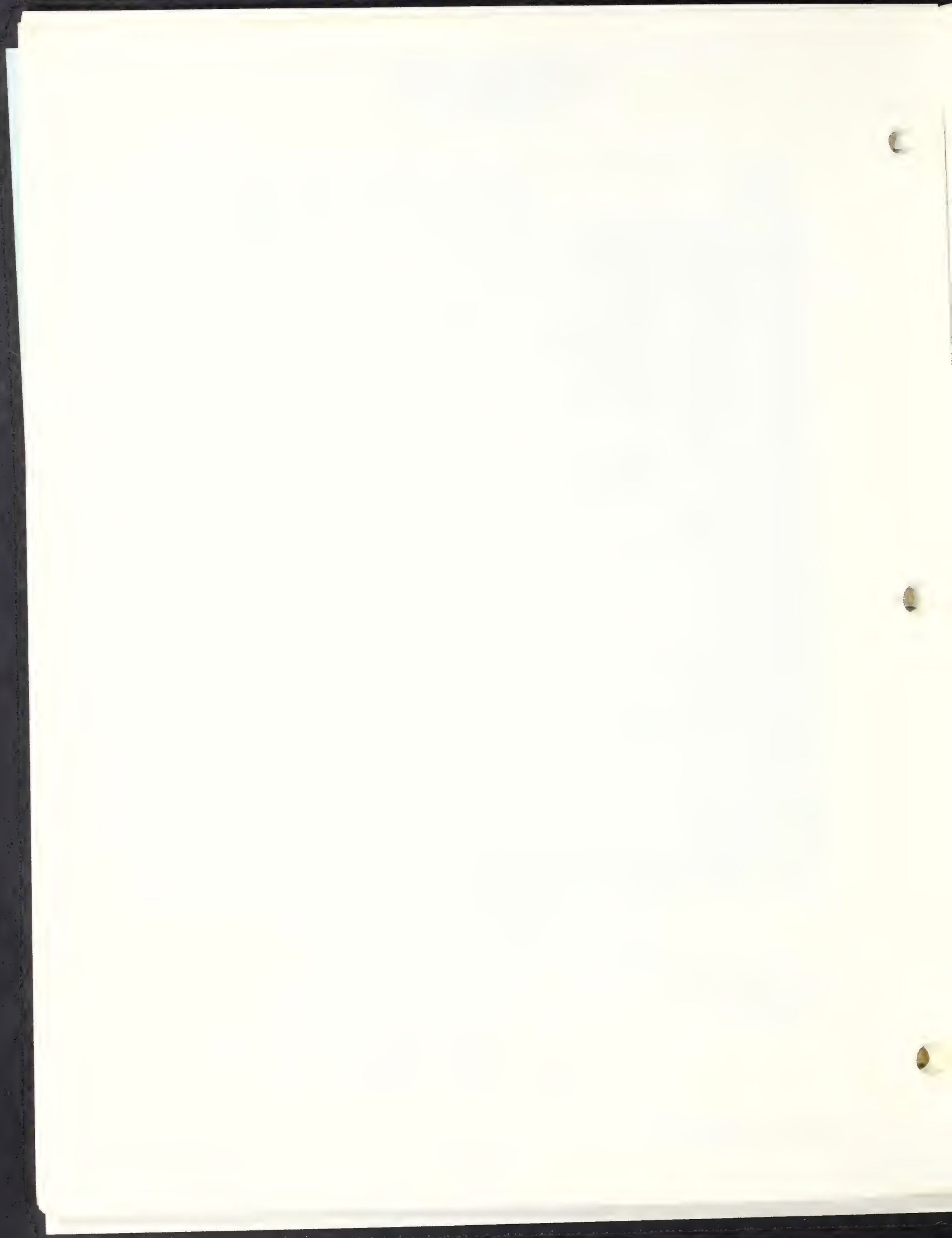
MASSACHUSETTS TURNPIKE
Operating Characteristics
PM Peak Hour
Intersection Analysis

LOCATION	INTERSECTION LOS		
	1987 EXISTING	1995 NO BUILD	1995 BUILD
RTE 9 - RTE 16 (EASTERN)	C	C	C
RTE 9 - RTE 16 (WESTERN)	C	C	C
RTE 9 - SPEEN (HILTON)	C	C	C
RTE 9 - SPEEN (NATICK MALL)	C	D	E
RTE 9 - SPEEN (HARTFORD ST)	E	F	E
RTE 9 - EDGELL (NORTHERN)	D	F	F
RTE 9 - EDGELL (SOUTHERN)	F	F	F
RTE 9 - TEMPLE	F	F	F
RTE 16 - 135 (EASTERN)	F	E	F
RTE 16 - 135 (WESTERN)	F	F	F
RTE 20 - 27/126	F	F	F
RTE 20 - NOBSCOT	F	F	F
RTE 27 - 135	E	F	F
RTE 27 - 30	F	F	F
RTE 27 - 126	C	F	F
RTE 30 - PARK	C	F	E
RTE 30 - NEWTON	E	E	F
RTE 30 - SPEEN	F	F	F
RTE 30 - SHOPPE'S WORLD	F	F	F
RTE 30 - 126	F	F	F
RTE 126 - 135	F	F	F
RTE 126 - SPEEN	F	F	F
RTE 135 - SPEEN	D	F	F
EXIT 13 (RTE 30 EASTBOUND ON RAMP)*	C	C	C
EXIT 13 (RTE 30 WESTBOUND ON RAMP)*	D	E	F

PRELIMINARY

C - CRITICAL VOLUME SUM 1200
D - CRITICAL VOLUME SUM 1201 - 1300
E - CRITICAL VOLUME SUM 1301 - 1400
F - CRITICAL VOLUME SUM 1400

* MERGE CHECKPOINT



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #7

MEETING NOTES

Date: September 16, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Natick: George Wallace; William Costello
Town of Southborough: Charles E. Gaffney
Town of Wayland: Theresa DiCicco
Town of Westborough: Larry Gomes
Town of Weston: Jean Thurston

Other Officials and Members of the Public

Robert H. Marsh, State Representative - Weston
Bill Walsh, Middlesex News
Mel Willens, Vice Chairman, Natick Board of Selectmen

Massachusetts Turnpike Authority

M.C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Peg MacKenzie, Coordinator of External Affairs

Consultants

Joseph Grilli, EIR Project Manager, Howard Needles Tammen & Bergendoff (HNTB)
Lisa Drucker, Environmental Planner, HNTB
Gordon Turow, Landscape Architect, HNTB
Ann Davin, Archaeologist, The Public Archaeology Laboratory
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson Associates

Barry Lawson opened the meeting, asked those present to introduce themselves and previewed the meeting agenda. He then asked for comments on the minutes of the August 5th meeting. Jean Thurston made reference to her comments about the desirability of holding a public meeting before the release of the DEIR (EIR Revised Schedule: Comments and Discussion Points, p. 2). She asked that the words "the majority of" be removed from the sentence reading "Ms. Thurston agreed, provided the public has access to the majority of the information to be contained in the EIR by the date of the public meeting." The minutes were then approved as amended.

IMPACT ANALYSES

Archaeological Resources: Barrier Toll Plaza Site *Ann Davin, Public Archaeology Laboratory, Inc.*

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213

Ann Davin discussed the results of an archaeological survey on the area around the proposed barrier toll plaza site. Ms. Davin explained that the first step taken was background research to determine what is already known about the area. She noted that the proposed toll plaza area is near the Great Cedar Swamp. This area is known to contain a large number of archaeological sites, many of which have been investigated by amateur archaeologists excavating the sites in the Cedar Swamp area with local archaeologist Curt Hoffman. The project site was therefore initially considered to have potential for archaeological artifacts or sites.

"Walk-over" field research was then conducted to examine soil types and to inspect topography to determine the sensitivity of the area and to look for evidence of such artifacts as projectiles, chipping debris, cellar poles, and historic trash pits. Although a few areas appeared possibly worthy of further testing, the presence of large boulders and rocky terrain indicated that the area was not likely to be sensitive.

To test this further, about 48 to 50 test pits (considered to be a significant number of test pits for the size of the project) were dug to screen soils for evidence of cultural materials (ceramic or glass fragments). Test pits were dug about every twenty meters through the project area along transects on both sides of the Turnpike. The test pits were roughly 50 cm x 50 cm, and were dug to a depth of 50 cm when possible. In most areas it was not possible to achieve this depth, due to the presence of boulders and ledge. Such terrain indicates that the area is not likely to have been a prehistoric site although it may possibly have been used for grazing or as a woodlot during the historic era. However, the test pits revealed no evidence of prehistoric artifacts or historic cultural material.

Comments and Discussion Points

- Barry Lawson asked whether the presence of fill could affect the accuracy of the survey. Ms. Davin noted that enough test pits are dug so that a general soils profile is known. If a disturbed area is found, the test pit would be dug deeper.

Historical Resources: Thomas Pierce House and Barn
Gordon Turow, Howard Needles Tammen & Bergdendoff

Gordon Turow explained that this presentation has been prepared (and will be included in the EIR) in response to a request from the State Historic Preservation Officer to address the visual and audible effects of the 1988 Turnpike Improvement Program in the vicinity of the Thomas Pierce House and Barn in Weston. He noted that this presentation addresses the visual effects and that the audible effects will be addressed at a later date. He showed the LLG members plans, sections, and photographs which illustrate the physical relationship between the Turnpike

and the Thomas Pierce House and Barn. The presentation documented existing site conditions, the embankment, and the extent and nature of existing roadside vegetation. Also displayed were the corresponding (proposed) alterations to the highway, the embankment, and the landscaping which may result from implementation of the improvement program. These illustrations clarified that the proposed construction will be confined to the property owned by the Authority. Changes in the landscape focused on the potential impacts to the embankment and to the existing roadside vegetation.

The existing visual relationship between the Turnpike and the Thomas Pierce House and Barn was discussed in terms of landscape compatibility, continuity, scale and form. Perceived changes in that visual relationship may result due to the potential loss of existing roadside vegetation and the relocation of the existing embankment.

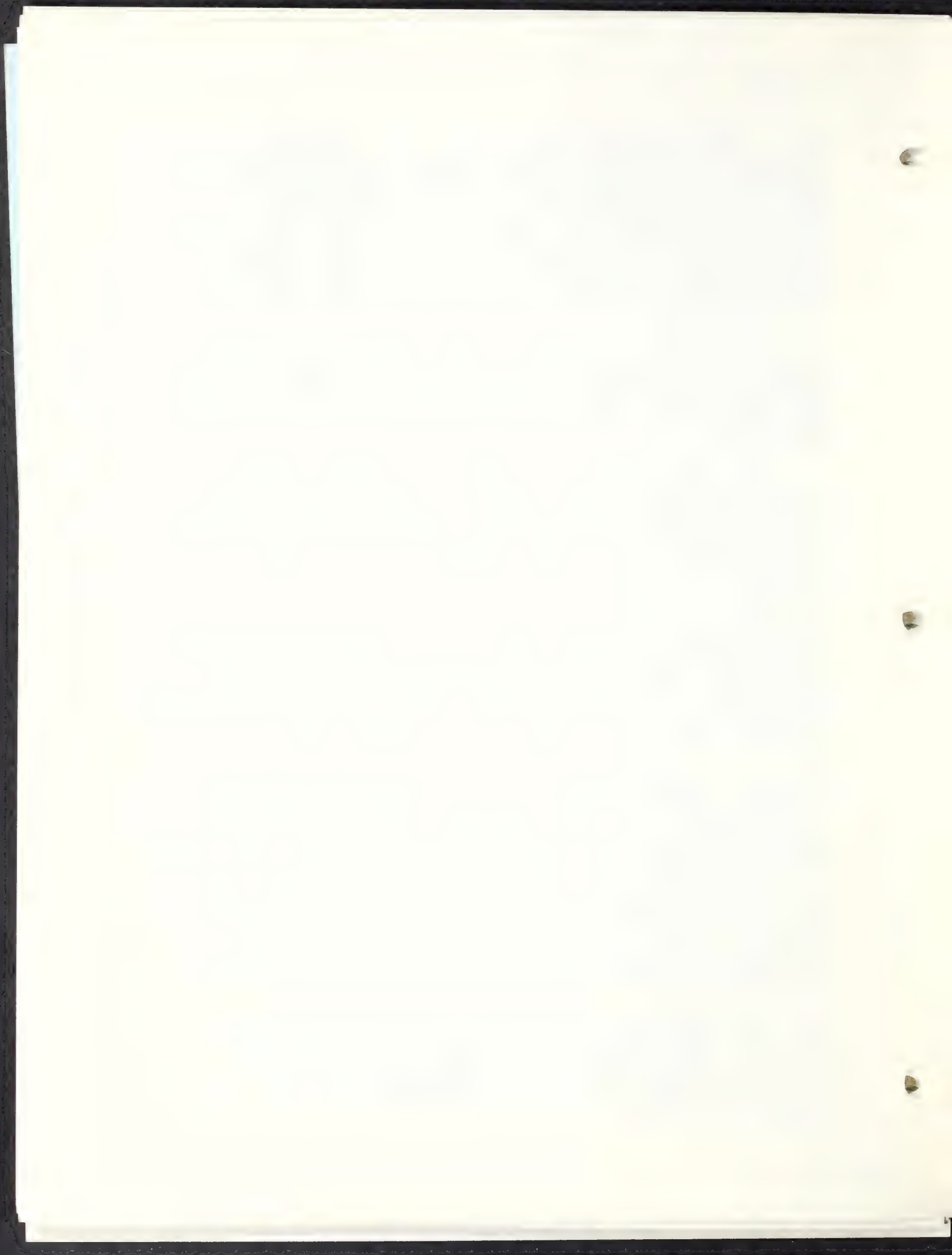
Mr. Turow showed the group drawings which illustrated the relocation of the embankment and the conceptual replacement of lost roadside vegetation. A planting plan will be designed in conjunction with the design of the new embankment, the highway and its appurtenances after the results of the noise impact study have been determined.

Comments and Discussion Points

- Barry Lawson asked whether the existing and proposed material is evergreen or deciduous. Mr. Turow replied that the existing vegetation is primarily evergreen and appears like natural field succession. He also noted that in many places the existing plant material does not fully screen the highway guardrail or highway traffic. It is anticipated that the proposed vegetation will be primarily evergreen.

- Several LLG members questioned the height of the proposed tree plantings. The discussion focused on the appropriate size for the proposed trees. Mr. Turow noted that the landscape is always changing and growing. He emphasized that the size of the plant material is not the only measure of a design's potential success. The types of plants, their relationship to each other and to the site grading and design, their appropriateness for the site, and the site's growing conditions also contribute to anticipating the immediate and potential future success of a planting design. He noted that at this site, the design must allow for plant growth and maturity and recognize that roadside embankment plantings are designed to be essentially self-sustaining and maintenance free.

Mr. Turow clarified that this presentation illustrates that lost roadside vegetation will be replaced and that specific types, quantities, and sizes of proposed plant materials have not been selected. He also said that the presence of the guardrail may allow plant material to be in closer proximity to the road than might otherwise be possible. Mr. Turow concluded that the



replacement plantings would be a focus of the perceived visual change in the landscape following the construction of this project.

- Jean Thurston commented that Weston was looking for an improvement of existing conditions.
- Ms. Thurston asked whether the aqueduct is elevated in the area and Mr. Turow replied that, as far as he could remember, the aqueduct is not perceived as actually "elevated."
- Joe Grilli reminded the group that this is one aspect of the impact assessment. The noise component is not ready for review. He added that this presentation illustrates a concept and is not intended to be a planting design. The Authority recognizes that roadside vegetation in front of this property will be lost to undertake the Turnpike Improvement Program and that the Authority is committed to replacing it.

STATUS REPORT

Recreation Studies

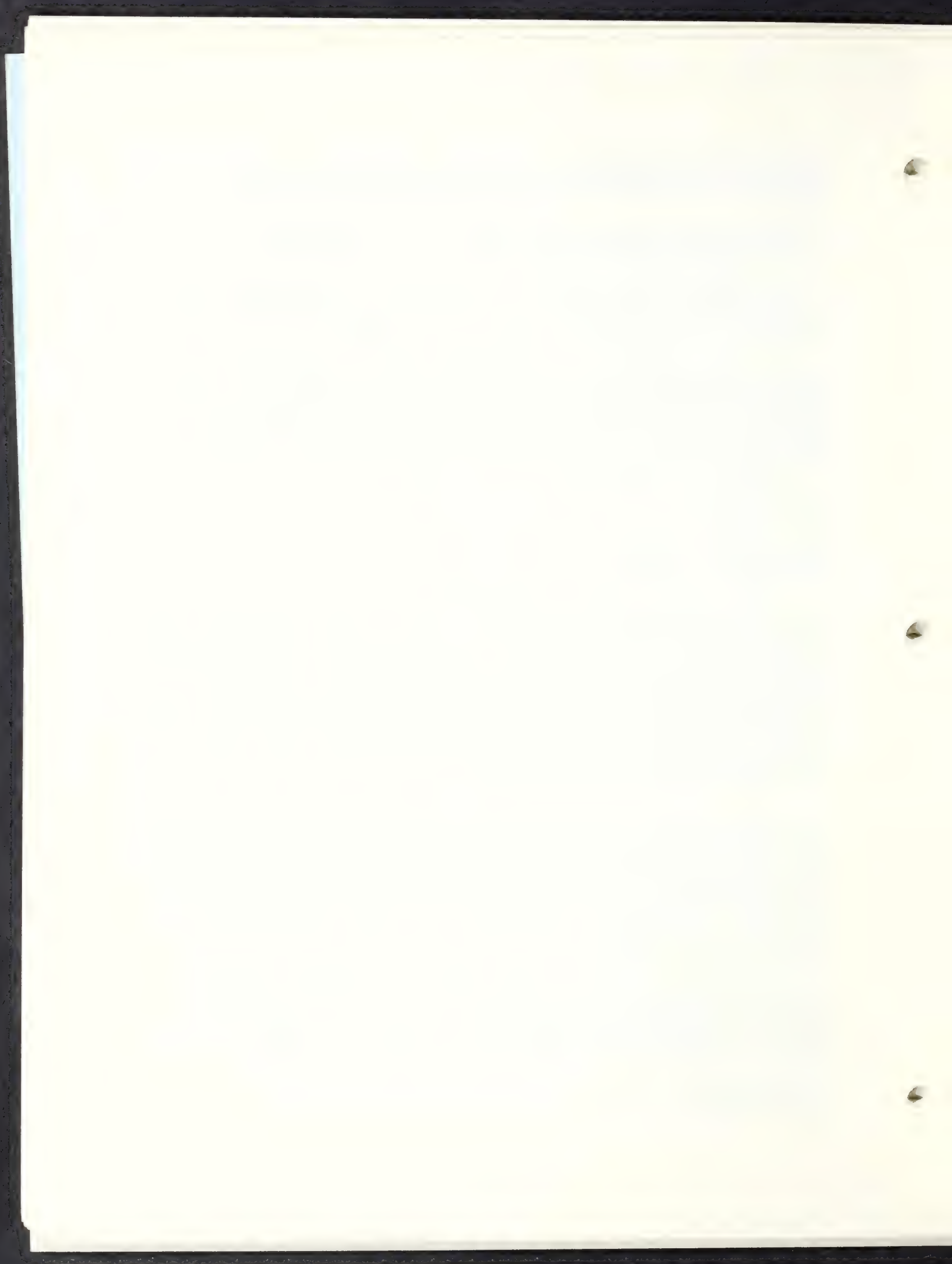
Lisa Drucker, HNTB

Lisa Drucker said that the purpose of the study is to comply with the MEPA scope by establishing the baseline conditions of the study area with regard to recreation sites, and evaluating changes on recreational sites as a result of the project. She referred to presentation maps and explained the methodology used to meet the study objectives. She explained that an initial preliminary screening process has been completed, which has identified sites which have the potential of being affected by the Turnpike. These sites will undergo a detailed impact evaluation. She noted that additional sites may be evaluated in detail after completion of the traffic studies.

Ms. Drucker then described the initial site inventory and preliminary screening. An inventory was conducted of recreational sites within one mile of the work limits of the 1988 Improvement Program. The sites were identified from maps and from inquiries to town recreation, planning, and conservation departments. All sites were visited, and information was collected on recreational facilities and Turnpike view, etc. Town and State Open Space Plans were also consulted.

Ms. Drucker referred LLG members to a handout [attached] which summarizes the site inventory and preliminary screening process. Forty-six sites were found within the study area and five impact categories were identified to determine which sites will undergo a detailed evaluation:

- **air quality** - if the site is within 500 feet of the proposed travel lane.

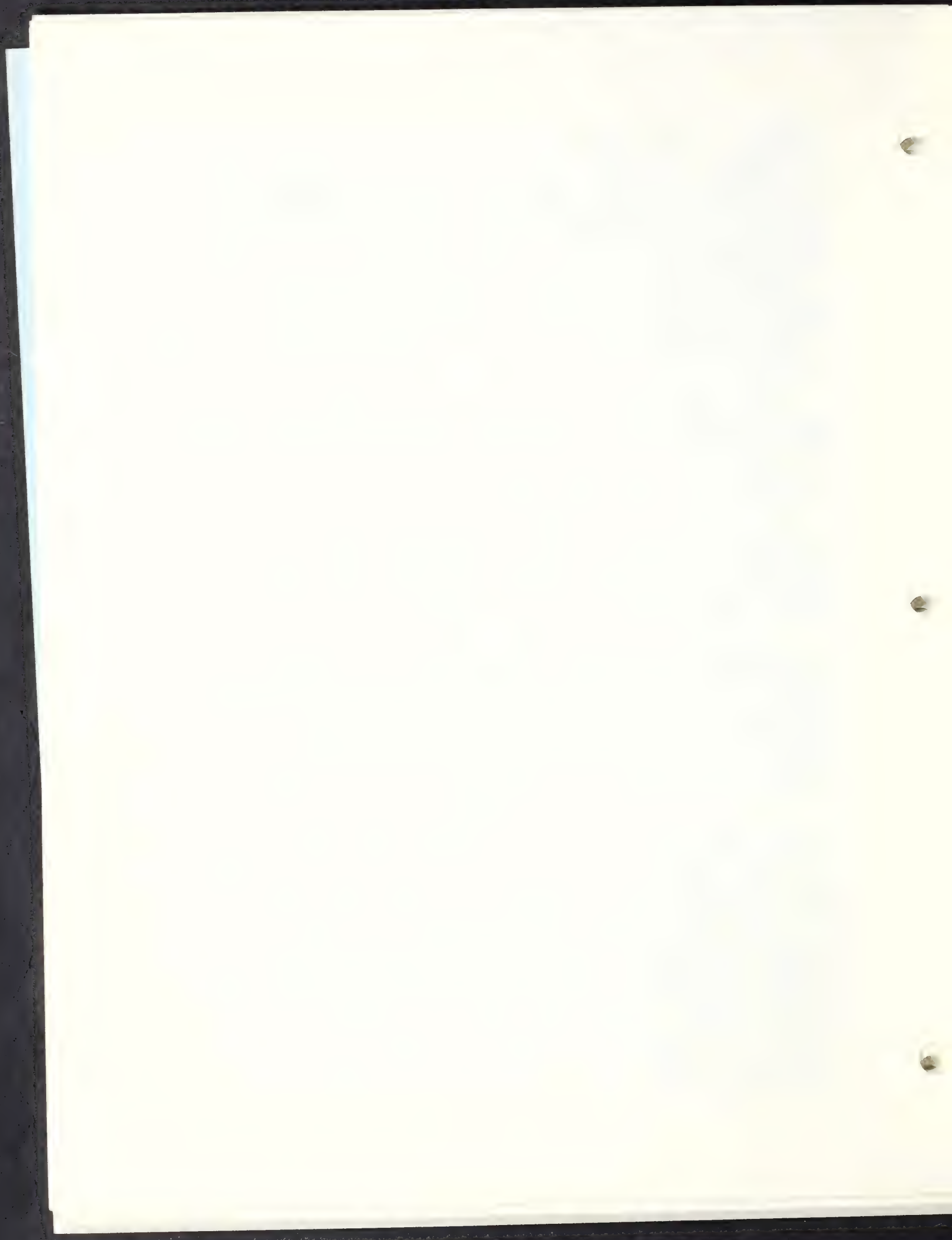


- **noise** - if the site is within 500 feet of the proposed travel lane.
- **traffic** - if traffic volume of the access road is changed.
(Ms. Drucker also noted that sites will be re-screened after the traffic data has been completed based upon the type of facility, the type of traffic flow, and the change in level of service. Additional sites may undergo detailed evaluation as a result of this rescreening)
- **visual** - if the Turnpike is visible from the site, or will be under the proposed conditions. (direct, partial, seasonal, and nighttime visibility will be considered)
- **water quality** - if a body of water exists on site; if uses include fishing/swimming; or if site receives drainage from the Turnpike.

As a result of this initial screening, nineteen sites are currently identified for detailed analysis; further sites may be added after the future traffic characteristics of the study area are determined.

Comments and Discussion Points

- Theresa DiCicco asked whether detailed study of site #8 (Cochituate State Park) would consider the effect of the Turnpike on receptors across Lake Cochituate. Ms. Drucker said that potential noise impacts would be addressed. Ms. DiCicco asked whether HNTB would be making recommendations on mitigation measures and Ms. Drucker replied that they would, as appropriate.
- Charles Gaffney asked for more detail on the criteria to be used for the detailed analysis. Ms. Drucker gave two examples of the types of criteria to be used to evaluate impacts of the 1988 Improvement Program. In the case of **noise**, changes in communication distance would be evaluated. In the case of **air quality**, shortness of breath could result for some of the more active recreational pursuits. In response to a question from Ms. DiCicco, Ms. Drucker also noted that Federal and State criteria will be used for the recreation impact studies.
- Larry Gomes asked whether other areas covered in the EIR will receive the same site-by-site, individual treatment. He expressed particular concern about air quality, water and noise impacts. He cited well testing as one example, in which about twenty-five percent of all wells were tested. In his view this is inadequate, since wells with disparate characteristics may exist side-by-side. He gave as an example two wells with depths of eighteen and four hundred feet and questioned whether a sampling program could be accurate which did not test both wells. He then cited noise impacts, in which he said only three noise measurements were taken in Westborough. He said that a similar standard to the recreational study should be used, in which any homes within five hundred feet should be considered. He concluded by saying that residential concerns should receive the same treatment as recreational facilities.



Mr. Grilli responded that the type of sampling and the sampling/measurement rate vary by the type of study. He explained that it is not cost effective or necessary to take measurements at all homes with similar characteristics. Representative samples will be taken and used to make predictions for all homes and other sensitive receptors within five hundred feet of the Turnpike. Mel Crain noted that further information can be collected if it is determined appropriate. Mr. Lawson added that the studies portray a profile of individual or multiple residences. Once engineers have identified individual and multiple impacts on residential clusters, they then suggest ways of avoiding or mitigating these impacts.

- George Wallace said he believed the acreage figure given for Cochituate State Park (1100) is too high and that he thought it was closer to 625 acres. [According to published reports and state personnel, the size of the park is approximately 1000 acres.] Mr. Wallace asked whether HNTB would be considering the variation in seasonal use among the various sections of the park. Ms. Drucker said they would be taking seasonal use into consideration.

Other Studies

Joseph Grilli, HNTB

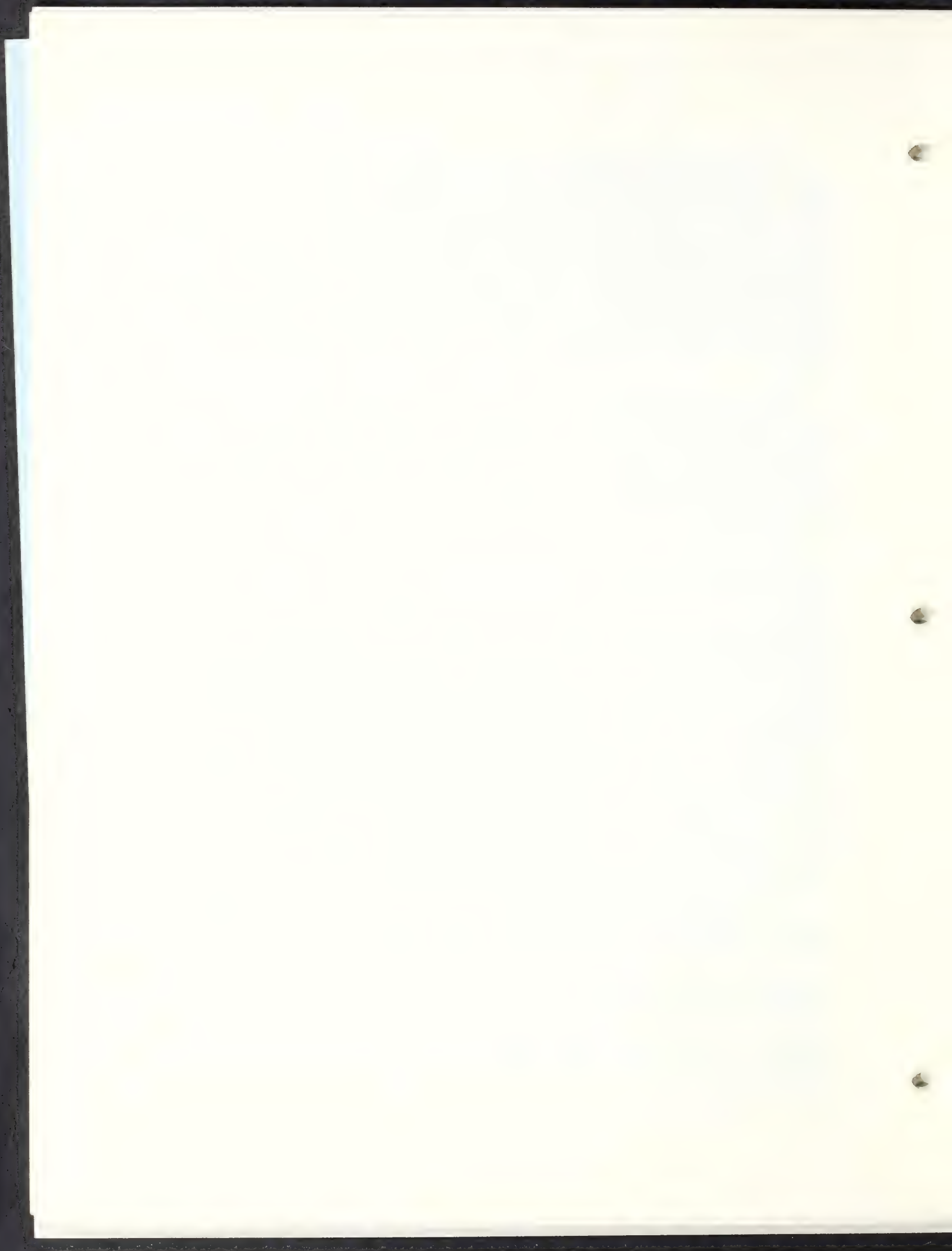
Traffic: Mr. Grilli said that CTPS is continuing its work on traffic projections. They have completed calibration of the existing peak 1987 p.m. peak period and have done the 1988 'build' versus 'no build' p.m. comparison. They will next be doing the 1995 p.m. projections and are working on the a.m. and daily projections. Work is scheduled to be complete by the end of September. The 1988 'no build' alternative indicates that Routes 9 and 30 would experience a traffic increase caused by shifts from Routes 20 and 135. These shifts would be made to take advantage of increased capacity on Routes 9 and 30 due to state-planned capacity improvements there. The 1988 'build' condition would result in moderate shifts to the Turnpike from Routes 30 and 9, and also from Routes 20 and 135 to some extent. Mr. Grilli said that the 1995 data will be more meaningful, since it will include significant developments scheduled to come on-line by that time.

In response to a question from Ms. DiCicco on the meaning of traffic shifts, Mr. Grilli explained that the traffic network tends to seek out an equilibrium condition.

Air/Noise: Work on these studies is dependent upon completion of traffic modeling work.

Wetlands: Mapping has been completed on worksheets. Wetland impacts are now being examined.

Service Area 8E:



✓ Lighting - Lighting engineers are scheduled to take additional measurements around Service Area 8E and Ridgeway Road.

Charles Gaffney asked whether high or low sodium lights would be used. Mr. Crain replied that the Turnpike will be relying on its illumination engineers for recommendations on this issue. He explained that the Turnpike had changed from mercury vapor to high and low pressure sodium for significant energy cost savings. Low pressure sodium illumination is used on the Boston Extension and Service Area 8E. He noted that colors do not show as well under the low pressure sodium lights.

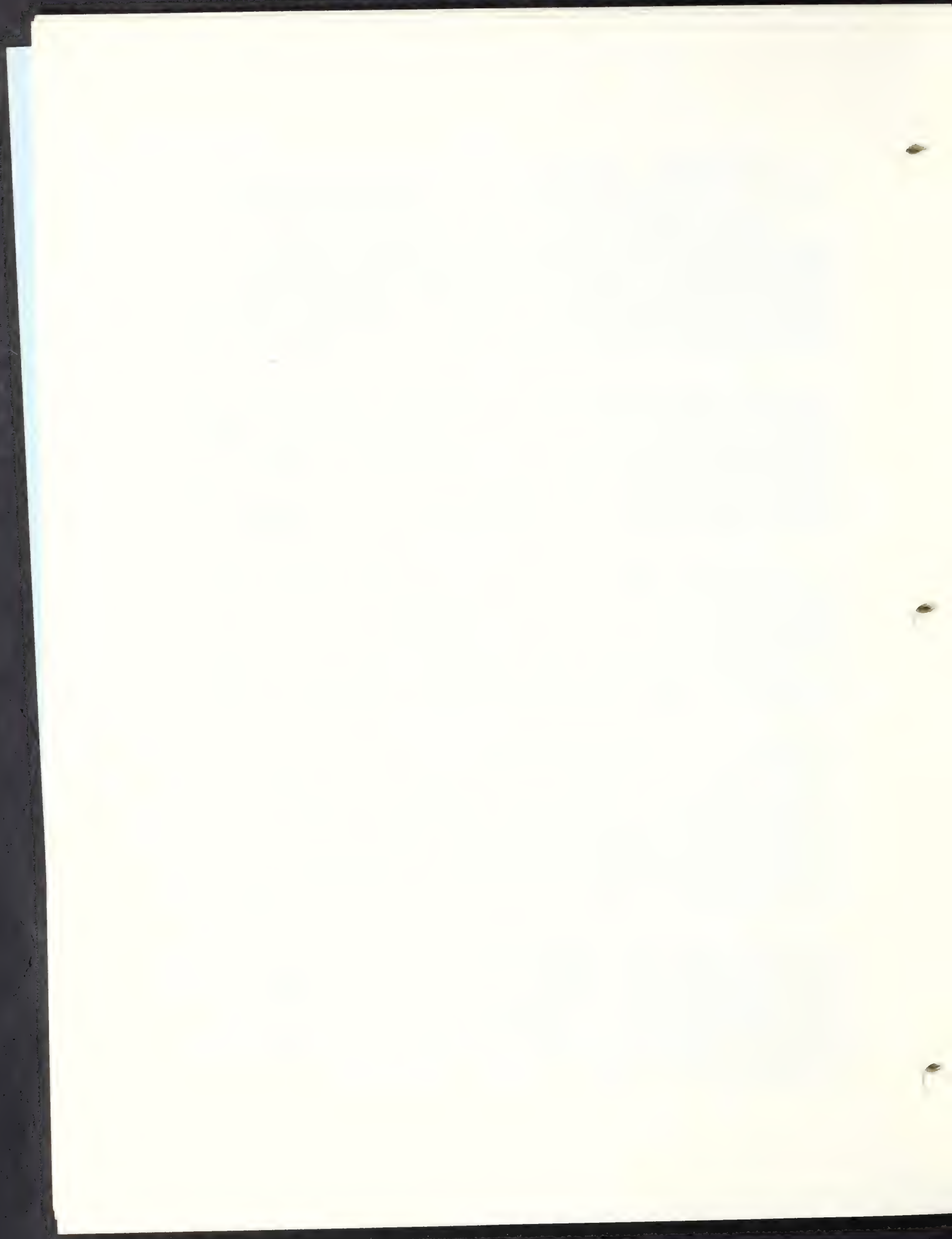
✓ Truck Accumulation - Mr. Grilli said that traffic engineers conducted truck accumulation counts on four Sundays in July and August at Service Area 8E and found that a maximum of between 49 and 53 trucks were present at the rest stop, including several trucks parked on the main line of the Turnpike. Projected growth of eight percent per year, the historic growth over the last ten years, leads to a projected demand of about ninety-one to ninety-eight parking spaces. This is in line with the proposed truck parking space expansion project.

Mr. Grilli said that the duration of stay was measured between 10 p.m. and 8 a.m. It was found that 66 % stayed two hours or less (fifty percent kept their diesel or refrigeration units running for this time); 11 % stayed two to four hours; 7 % stayed four to six hours; and 15 % stayed greater than six hours. Of those staying greater than six hours, one-third (five percent of the total) left their engines or refrigeration units running. In general, it was found that the shorter the stay, the more truckers are likely to let their engines idle.

Comments and Discussion Points

- Mel Willens said neighborhood residents cannot open their windows because of the presence of raw diesel fumes. He questioned the inability to distinguish between refrigeration units and diesel engines and reminded Mr. Grilli that the problem is even more severe in winter time. He also asked whether traffic engineers observed anyone stopping at the service area without using any of the services available. Mr. Grilli replied that this was not observed.

- Bill Costello asked what alternatives to the expansion are being considered other than enforcing the existing laws. Mr. Costello said that he has seen trucks entering the Service Area on Saturday night and staying until Sunday night. He has not seen law enforcement move trucks off the main line. If the service area cannot be policed, (he suggested the Authority consider hiring attendants) then the Authority should seriously consider eliminating it altogether.



- Mr. Costello also questioned whether the Service Area has a greater percentage of accidents than other segments. He discussed line-of-sight hazards caused by the Service Area. He made particular reference to a recent accident which occurred at approximately 11:30 a.m. on August 31, 1987 at a site on the westbound lane directly across from Service Area 8E. He had witnessed the response crew operations which included righting an overturned car. He noted that the gasoline tank of the car had ruptured so that gasoline was leaking from the tank. He wondered why emergency operations suggested by the State Police at an earlier LLG meeting had not been followed. He did note that the attending fire department had quickly surrounded the spilled fuel, but wondered how the gasoline was allowed to spill in the first place.

Mel Willens suggested that it may have been the responding town's (Natick) fire department which had been lax in not properly inspecting the condition of the car and its gasoline tank prior to turning it over.

- Theresa DiCicco asked where trucks would stop if there were no Service Area 8E. Mr. Costello noted the presence of truck parking facilities in Lexington and said that the Turnpike should analyze the use of other alternatives. Jean Thurston asked for the nearest eastbound facility on the Turnpike, and Mel Crain noted that it is in Charlton, west of Route 495. He indicated that that facility is also experiencing capacity problems.

Water Quality: It is anticipated that Carl Noyes of Jason M. Cortell and Associates will present the results of the private well testing program at the next LLG meeting.

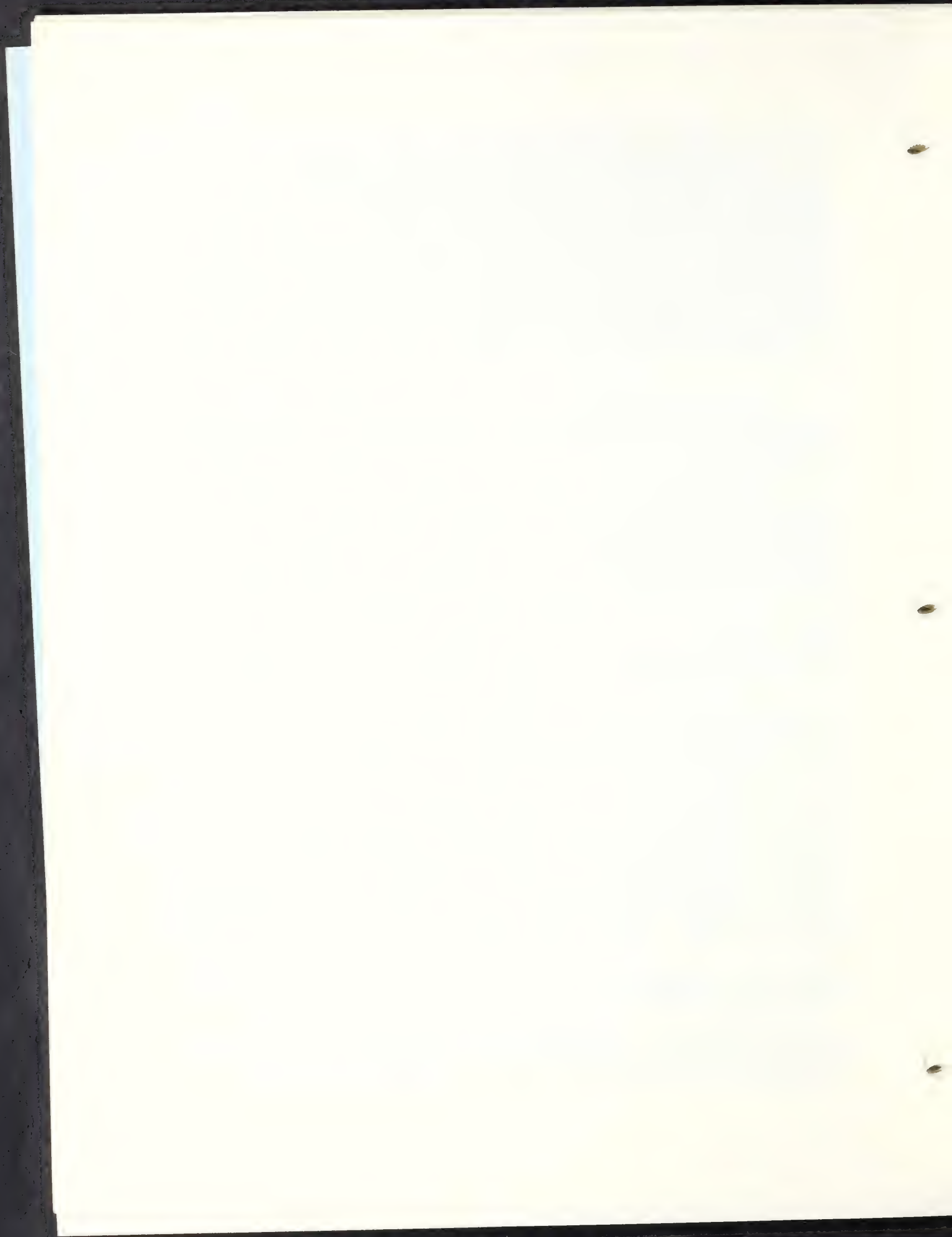
Jean Thurston asked whether the data on the well sampling program had been placed in the data repository. Mr. Grilli said there had been a few problems getting information on well depths and he hoped the data would be available by the next meeting.

Other Comments and Discussion Points

- Larry Gomes asked whether a decision had been made on the location of the barrier toll plaza access road. Mr. Grilli said that the likely recommendation will be the south side of the Turnpike. This option is preferred for reasons of sight distance, safety, wetlands, and distance from the predominance of residences on Gilmore Road. HNTB will be examining the floodplain in that area.

TRAFFIC AND TRANSPORTATION: Interchange 15 (existing conditions)
Joseph Grilli, HNTB

In response to a request from Larry Gomes, HNTB distributed material on the existing operating characteristics on the Boston Extension (Interchange 15 to 16) and on Barrier Toll Plaza 15 in



Weston. The traffic handout (attached) shows that the highway segment is carrying more than would be predicted, and speeds are higher than would be expected, due to the road's excellent geometric features and use of the road by those familiar with it. This segment has a volume to capacity (v/c) ratio of 1.08, slightly lower than that of the area to the west, which has a v/c of 1.14. The extension is operating somewhat better than the Turnpike west of Route 128.

- Larry Gomes noted that the toll plaza v/c ratio shows some excess capacity eastbound in the a.m. peak hour. Mr. Grilli replied that the peak fifteen minutes of the peak hour exhibit about a ten to fifteen percent higher rate of flow. In reality, the barrier toll plaza operates near or over capacity during both peak hours.

- Mr. Gomes expressed his concern that the 1988 Improvement Program will create a faster road, which will bring vehicles to the Weston toll plaza quicker, only to have them stuck in traffic there. Mr. Grilli noted that the Improvement Program includes the conversion from ticket to coin collection at this toll plaza, providing more toll capacity there.

OTHER BUSINESS

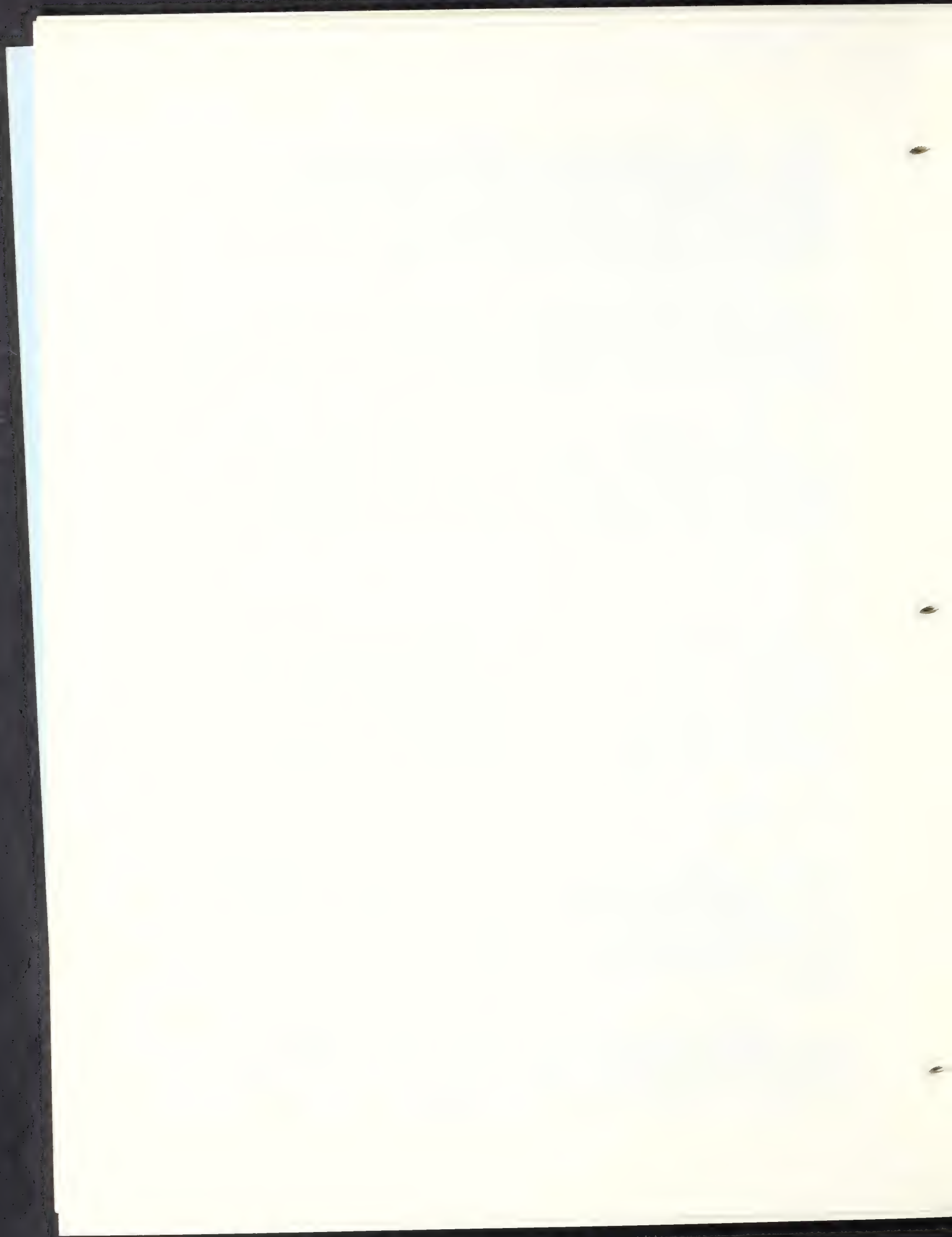
Information Repository

Ann Jacobson explained that the Weston Engineering Headquarters would be the site of a special repository which will contain all the raw data and output from the impact studies. The repository will be located in Room 210 (next door to the conference room) and logistical details about repository use will be sent to LLG members shortly. Charles Gaffney suggested that someone be available before each LLG meeting to assist with the repository. Ms. Jacobson noted that the Turnpike Authority has assigned a staff member to assist the public with the repository.

LLG Meetings

The next meeting of the LLG has been set for **Wednesday, October 7, 1987** at which time the *Water Quality and Lighting* impact studies will be presented. The LLG was also asked to reserve **Wednesday October 21** to discuss *Traffic and Wetlands*. Meetings may then be held about every two weeks to cover presentations on the remaining impact studies: *Air, Noise, Design*. Charles Gaffney expressed an interest in having a meeting to present this information to the public before the end of the process.

A request was made by several members that written reports on agenda items be distributed to the LLG prior to meetings at which they would be discussed. Barry Lawson explained that the project team shares the same objective, and that efforts would be made to achieve it. In the press of time, however, it has been impossible



to guarantee a prior report for each impact area. He assured the group that every attempt would be made to do so in the future.

1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

RECREATION STUDIES

Site Inventory

Preliminary Screening

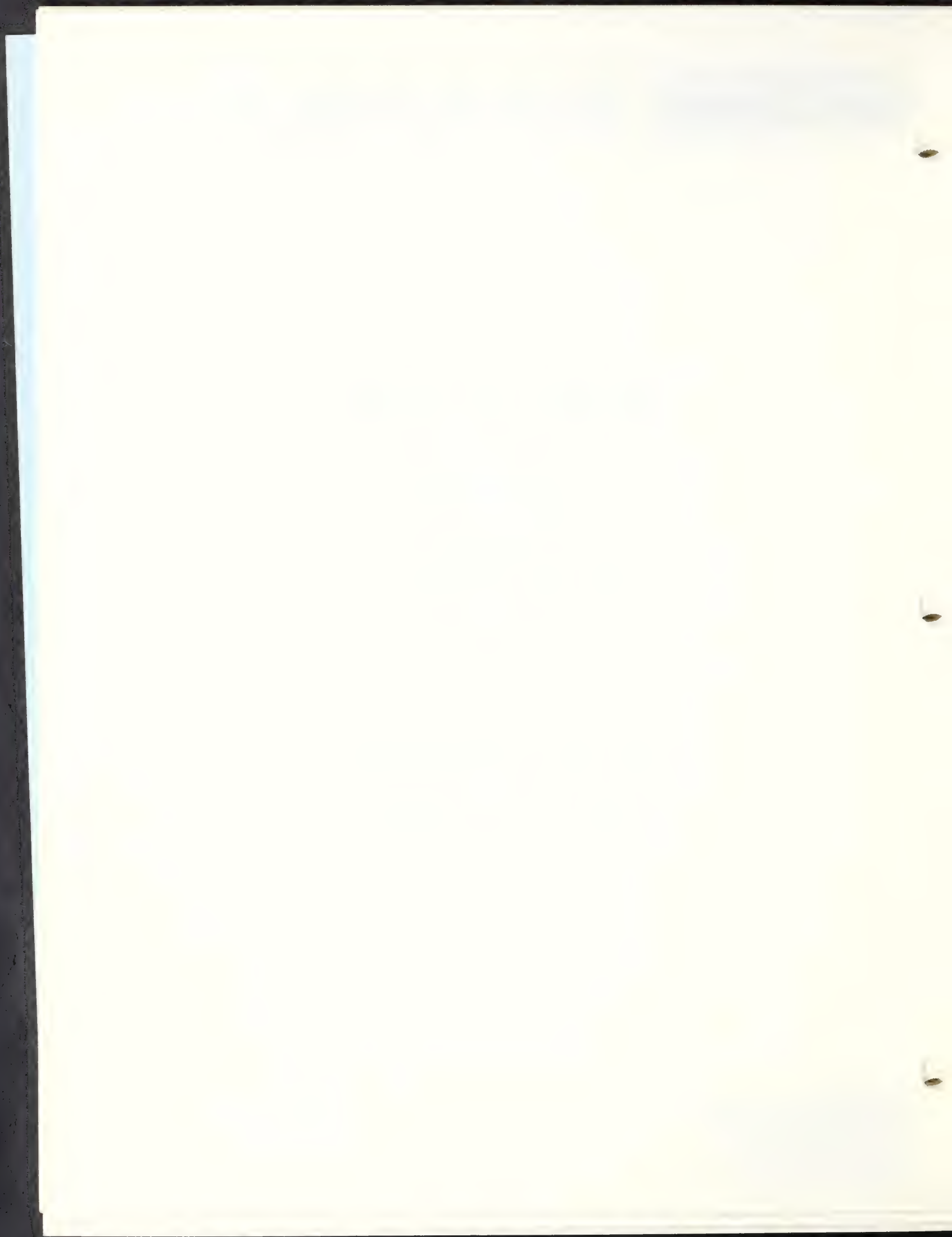
Local Liaison Group Meeting

September 16, 1987

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
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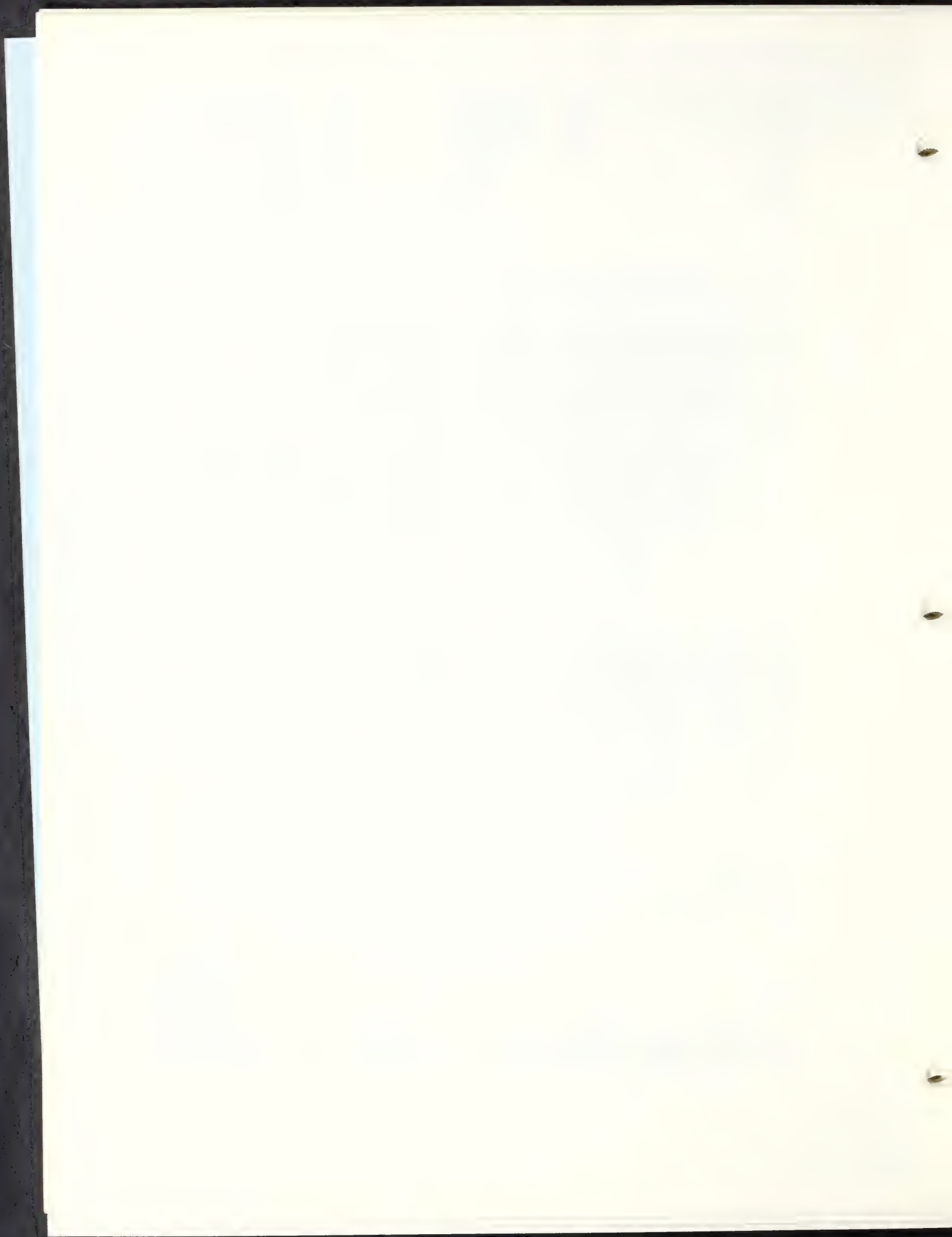
Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213



MASS. TURNPIKE AUTHORITY
1988 IMPROVEMENT PROGRAM
ENVIRONMENTAL IMPACT REPORT

TABLE 1: RECREATION SITES WITHIN ONE MILE OF THE TURNPIKE IMPROVEMENT PROJECTS

TOWN	SITE NO.	SITE NAME	TYPE	APPROXIMATE SIZE (AC)	APPROXIMATE DISTANCE FROM PROPOSED EDGE OF TURNPIKE*
Westborough	1.	Koch Process Co. Ballfield	Playfield (P)	1	3,348'
Southborough	2.	Finn School Playground/ Mooney Field	Playfield	6.9/7.4	488'
Framingham	3.	Framingham Country Club North High School Playfield/ (Winch Park)	Golf Course (P)	216	75'
	4.		Playfield	10	4,570'
	5.	Arlene Drive Cons. Land	Conservation Land	4	2,487'
	6.	Danforth St. Playground	Playfield	9	4,883'
	7.	Reardon Park/Cochituate Brook Conservation Land	Playfield/ Conservation Land	27	88'
Wayland, Natick, Framingham	8.	Cochituate State Park	Large Park	1,100	38'
Natick	9.	Bennet-Hemenway School Playfield	Playfield	10	2,279'
	10.	Wilson Jr. High School Playfield	Playfield	14.32	3,946'
Wayland	11.	Cochituate Playfield	Playfield	4.6	2,904'
	12.	Hannah Williams Playground	Playground	1.3	1,465'
	13.	Dudley Brook Cons. Area	Conservation Land	10	4,049'
	14.	Wayland Jr. High School Playfield	Playfield	39	3,946'
	15.	Lower Snake Brook Cons. Area	Conservation Land	26	63'
	16.	Langdon Road Cons. Land	Conservation Land	6.4	63'
	17.	Timber Lane Cons. Land	Conservation Land	8.9	898'
	18.	Loker School Playfield	Playfield	17.5	3,529'
	19.	Snake Brook - Hamlen Woods Cons. Area	Reservation	103	4,634'
	20.	Mainstone Project Trails	Conservation Land	33.7	4,411'
Natick/Weston	21.	Camp Nonesuch	Campground (P)	13	88'



MASS. TURNPIKE AUTHORITY
1988 IMPROVEMENT PROGRAM
ENVIRONMENTAL IMPACT REPORT

TABLE 1 CONTINUED: RECREATION SITES WITHIN ONE MILE OF THE TURNPIKE IMPROVEMENT PROJECTS

TOWN	SITE NO.	SITE NAME	TYPE	APPROXIMATE SIZE (AC)	APPROXIMATE DISTANCE FROM PROPOSED EDGE OF TURNPIKE*
Weston	22.	Rivers School Playfield	Playfield	9.5	1,654'
	23.	Pine St. - Deer Path Lane Cons. Land	Conservation Land	20	2,208'
	24.	Pine St. - South Avenue Cons. Land	Conservation Land	13	1,338'
	25.	Wightman Tennis Center Winter-Wellesley St.	Tennis Courts (P)	15	88'
	26.	Cons. Land	Conservation Land	62	118'
	27.	South Ave. Highland Ave. Cons. Land	Conservation Land	201	2,688'
	28.	Weston High School Playfield	Playfield	103**	768'
	29.	Weston Middle School Playfield	Playfield	103**	68'
	30.	Wellesley Street Cons. Land	Conservation Land	36	63'
	31.	Norumbega Reservoir Jogging Area	Reservation	125	63'
	32.	Trailside Road Cons. Land	Conservation Land	31	1,038'
	33.	Glen Road Cons. Land	Conservation Land	15	3,788'
	34.	Gall Road Ballfield and Cons. Land	Playfield - Conservation Land	49	2,088'
	35.	Pine Brook Valley Golf Club	Golf Course (P)	135	578'
	36.	Beginnings Day Care Center Playlot	Playlot (P)	1.6	88'
	37.	Ridge Trail Hiking Area	Conservation Land	19	335'
	38.	Ridgeway Road Cons. Land	Conservation Land	6.7	158'
	39.	Elliston Woods Hiking Area	Conservation Land	15	1,368'
	40.	Doublet Hill Hiking Area	Conservation Land	34	2,268'
	41.	Leo J. Martin Golf Course	Golf Course	140	821'
	42.	Norumbega Duck Feeding Area	Park	1	1,862'
	43.	MTA Playing Field	Playfield(P)	3.8	1,562'
	44.	Meadowbrook School Playfield	Playfield	13	4,374'
Newton	45.	Charles River Canoe Service	Boat Launch	1	2,904'
	46.	Lower Falls Community Center Playfield	Playfield	7.4	4,166'

* Numbers in this column represent approximate distances from the closest point of the site property to the edge of the proposed travel lane.

(P) Private Use Facility
** Acreage includes the Weston High School and Middle School properties combined.

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Recreation Site Inventory:

Site Descriptions

1. The Koch Process Co. Ballfield, located in Westborough, MA., is a private ballfield with benches and a backstop for use by the Koch Process Co. employees. The field is also used for employee social gatherings such as picnics. Route 495 directly abuts the field to the east. The proposed Turnpike Barrier Toll Plaza is located further to the east. Access to the site is through company property from the end of Walkup Drive-off Flanders Road.
2. The Finn School Playground and Mooney Field located off Parkerville Road in Southborough, MA., together comprise a municipal playfield facility which has three ballfields and a soccer field at Mooney Field, playground equipment, and a basketball court at the Finn School. The two sites directly abut each other and can function as one unit; thus they are being considered together. The site is located across Richards Rd. which directly abuts the Turnpike east of the proposed Barrier Toll Plaza. Access to the site is located on Parkerville and Richards Roads.
3. The Framingham Country Club located off Country Club Lane in Framingham, MA., is primarily a private golf course, with an outdoor pool, tennis courts, golf shop, clubhouse and patio. The site is located adjacent to the proposed Turnpike Interchange 12 Toll Improvements. Route 9, the main access to the site is also a direct route to the Turnpike entrance at Interchange 12.
4. The North High School Playfield (Winch Park), located off Summer Street in Framingham, MA., is a school playfield with areas for baseball, softball, little league, football and soccer, tennis and basketball courts and playground apparatus. The site is located to the west of the proposed work at Interchange 13.
5. The Arlene Drive Conservation Land, is situated north of the Arlene Drive residential neighborhood in Framingham, MA., and southwest of the Mass. Turnpike Interchange 13 work area. Hiking trails wind through this wooded municipal parcel and lead to a seasonal pond at the northern end. Arlene Drive provides access to the site.
6. The Danforth Street Playground, located on the corner of Cottage and Danforth Streets in Framingham, MA., is a municipal playfield with facilities including a baseball diamond, basketball courts and playground apparatus. The site is situated in a residential neighborhood surrounded by houses and trees which is northwest of the proposed Interchange 13 widening.

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7. The Cochituate Brook Conservation Land and Reardon Park, is located off Old Connecticut Path and Desperes Drive in Framingham, MA. The site is town owned conservation land with established trails and a municipal playfield with a baseball diamond, playground apparatus and picnic area. The conservation land directly abuts the Mass. Turnpike at the proposed Interchange 13 widening.
8. Cochituate State Park, located in Framingham, Wayland and Natick, MA., is a popular regional recreation facility which is owned by the State and centered around Lake Cochituate; There are also many sites around the lake which are operated by other public and private interests. Primary activities include swimming, fishing, boating, windsurfing and picnicking. The park has public beach areas, boat launches, picnic tables and grills at its main entrances off Route 30. The following list includes specific sites of the State Park other than the main entrances which are within one mile of the Turnpike:

North of the Turnpike

Wayland Town Beach (Wayland)
Saxonville Beach (Framingham)

South of the Turnpike

Camp Mary Bunker (Natick)
Amputee Beach/VFW Beach (Natick)

A portion of the proposed Mass. Turnpike mainline widening between Interchanges 13 and 14 traverses the Lake east of Interchange 13. The major public access to the park, Route 30, is also a major route to the Turnpike entrance.

9. The Bennet - Hemenway School Playfield, located on East Evergreen Drive in Natick, MA., has facilities including a baseball field, basketball and tennis courts, picnic tables and playground apparatus. This school playfield is located in a residential neighborhood and is surrounded by houses and trees to the south of the Mass. Turnpike Mainline widening.
10. The Wilson Jr. High School Playfield, located on Rudledge Road in Natick, MA., south of Bennet - Hemenway School, has a playfield with a baseball field and tennis courts. The municipal field is also used for football and soccer. The site is located in a residential neighborhood to the south of the Mass. Turnpike mainline widening.
11. The Cochituate Playfield, located on West Plain Street in Wayland, MA., has 2 baseball diamonds and a basketball court. The municipal site is surrounded by houses, trees and an old school to the southeast. The proposed Mass. Turnpike mainline widening is located south of the site.

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19. The Snake Brook - Hamlen Woods Conservation Area, located off Rice Road in Wayland, MA., is a large reservation which is owned by the Town and the Sudbury Valley Trustees. This site is available to the public for walking, picnicking, fishing, boating, horseback riding and in the winter - skating and cross-country skiing. The land is mostly wooded with both deciduous and coniferous trees, and is located in a hilly area.
20. Mainstone Project Trails, located off Rice Road in Wayland, MA., was developed as part of the Mainstone subdivision. This wooded and hilly municipal site is used for hiking and is located across the road from the Snake Brook - Hamlen Woods conservation area, contributing to a scenic drive along Rice Road. The proposed Turnpike mainline widening is located to the south.
21. Camp Nonesuch, is a private camp facility located on Indian Rock Road in Weston and Natick, MA. Located on Nonesuch Pond, the camp offers activities including swimming, fishing and canoeing. Camp Nonesuch is located south of the Mass. Turnpike mainline widening. The access to the site, Indian Rock Road, is off Route 30 which is a main route to the Turnpike entrance.
22. The Rivers School Playfield, located on Winter Street in Weston, MA., is used for recreational activities such as baseball, swimming and fishing. Facilities include tennis courts, football, lacrosse, soccer and baseball fields, a swimming beach, a volleyball net, canoes and sailboats. The Turnpike is located to the north of the site across Nonesuch Pond.
23. The Pine Street - Deer Path Lane Conservation Land, in Weston, MA., is a wooded parcel of municipal land located in a residential neighborhood, north of the proposed Massachusetts Turnpike mainline widening. The site has walking trails and is primarily accessed through narrow strips of land between private properties off Pine St., Country Drive and Deer Path Lane.
24. The Pine Street - South Avenue Conservation Land, in Weston, MA., is wooded conservation land with walking trails. This Town owned site is located to the north of the proposed Mass. Turnpike mainline widening. Access is only available from Pine and Highland Streets.
25. The Wightman Tennis Center, located on Brown Street in Weston, MA., is a private tennis club with facilities including outdoor and indoor tennis courts and a swimming pool. The site directly abuts the Mass. Turnpike Authority Maintenance Area/State Police Barracks which is next to the proposed mainline widening between Interchanges 13 and 14. Access is from Brown St.

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26. The Winter - Wellesley Street Conservation Land, located in Weston, MA., is wooded conservation land with marked hiking trails and wetlands associated with a tributary to Bogel Brook which flows through the site. This town owned parcel directly abuts the proposed Mass. Turnpike mainline widening at its northern border. Access is from Winter and Wellesley Streets.
27. The South - Highland Avenue Conservation Land, located in Weston, MA., is an expansive tract of wooded conservation land with an extensive network of marked trails. The majority of this town owned parcel is located further than one mile north of the Mass. Turnpike. South Avenue which provides one access to the site is a heavily travelled roadway which eventually leads to Turnpike entrances at Interchanges 13 and 14 (west and east respectively). Other access points include Highland Ave. and Regis College.
28. The Weston High School Playfield, located on Wellesley Street in Weston, MA., has facilities including basketball and tennis courts, and baseball, football and soccer fields. The site is located north of the proposed Turnpike mainline widening. Access to this municipal site is off Wellesley Street.
29. The Weston Middle School Playfield, located on Wellesley Street in Weston, MA., abuts the high school playfield on the northern boundary. Facilities at this municipal site include baseball fields, tennis and basketball courts and other open fields. The middle school property directly abuts the proposed Mass. Turnpike mainline widening on the southern boundary.
30. The Wellesley Street Conservation Land, located in Weston, MA., is a parcel of wooded municipal conservation land with marked trails, used for activities such as hiking and horse-back riding. The proposed Turnpike mainline widening abuts this property to the north. Access is available by a carpath from Wellesley Street, or through the Norumbega Reservoir Land off Oak Street.
31. The Norumbega Reservoir Jogging Area, located off Oak Street in Weston, MA., is a State reservation owned by the Metropolitan District Commission (MDC) Water Department for the management of Norumbega Reservoir. Posted no-tresspassing signs discourage recreational use of this site, however, a track for walking or jogging exists around the perimeter of the reservoir. This site abuts the Wellesley Street conservation land to the west. The proposed Mass. Turnpike mainline widening abuts this property to the north. Access to the site is from Oak St.

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32. The Trailside Road Conservation Land, located in Weston, MA., is wooded conservation land with marked trails used for hiking and wetlands. The town owned site is located in a wooded residential neighborhood north of the proposed Mass. Turnpike mainline widening. Access is off Trailside Road and Ash St.
33. The Glen Road Conservation Land, located south of Glen Road and east of Oak Street in Weston, MA., is wooded conservation land with marked trails used for hiking and streams winding throughout. This town owned site is situated in a wooded residential setting south of the proposed Mass. Turnpike mainline widening. Access is from Glen Rd. and Oak St.
34. The Gail Road Ballfield and Conservation Land, located between Oak Street and Ridgeway Road in Weston, MA., is a municipal recreation site combining a ballfield for active play, surrounded by woods with marked trails and streams for passive activity. This recreation site is located in a wooded residential setting south of the proposed Mass. Turnpike mainline widening. Access to the site is from Gail and Ridgeway Roads.
35. The Pine Brook Valley Golf Club, located on Newton Street in Weston, MA., is a private golf course facility with tennis courts, a pro shop and a restaurant. The site is located on gently rolling terrain to the north of the proposed Mass. Turnpike mainline widening. Access to the site is on Newton St.
36. The Beginnings Day Care Center Playlot, located off Route 30 in Weston, MA., is a playlot for young children associated with a private day care center. Facilities include a sandbox, swings and other playground apparatus. The day care center directly abuts the proposed Mass. Turnpike mainline widening which is located to the south. Access to the site is from Rt. 30.
37. The Ridge Trail Hiking Area, located between Ridgeway Road and Orchard Avenue in Weston, MA., is wooded/open field conservation land with marked hiking trails. This town owned land abuts the Mass. Turnpike to the south of "Ramp J" at Interchange 14. Access to the site is from Ridgeway Rd. and Orchard Ave.
38. The Ridgeway Road Conservation Land, located in Weston, MA., is wooded conservation land through which Seaverns Brook flows. There are no established trails on this town owned site as it is quite mucky from wetlands associated with Seaverns Brook; however, it is used for nature study. The Mass. Turnpike proposed Interchange 14 widening abuts this site to the south. Access to the site is from Ridgeway Rd.

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39. The Elliston Woods Hiking Area, located off of Young Road in Weston, MA., is wooded conservation land with marked trails, a memorial stone and a pond. This town owned hiking area is bordered to the west by the Pine Brook Valley Golf course, and to the north by the Doublet Hill Hiking Area. The residences on Young Road border the site to the south. Access to the site is from Young Rd.
40. The Doublet Hill Hiking Area, located off Doublet Hill Road in Weston, MA., is a wooded hiking area with an extensive network of marked trails which weave around a variety of rock outcrops. This municipal facility abuts the Elliston Woods hiking area located to the south and the Pine Brook Valley Golf Course located to the west.
41. The Leo J. Martin Golf Course, located on Park Road in Weston, MA., is a Metropolitan District Commission (MDC) owned public 18-hole golf course with additional facilities including a driving range, golf shop, snack bar and picnic tables. The site is bounded on the north by Riverside Park and a raised railroad embankment and on the east by Route 128. Access is via Park Road which is a direct route to the Interchange 15 Turnpike entrance to the north.
42. The Norumbega Duck Feeding Area, located off Norumbega Road in Weston, MA., is a state owned parcel which consists of a paved parking lot located on the Charles River just north of the Route 30 overpass. Uses of this site include duck feeding, picnicking and fishing. The site is located to the northeast of the proposed Turnpike Interchange 14 widening. A pedestrian stairway leads up to Route 30 which is a direct route to a Turnpike entrance at Interchange 14.
43. The Massachusetts Turnpike Authority Playing Field, located on Riverside Road in Weston, MA., is for use of Turnpike employees. The playfield includes a baseball diamond and picnic tables. Interchange 15 is immediately adjacent to the ballfield. Access to the site is from Riverside Rd.
44. The Meadowbrook School Playfield, located on Farm Road in Weston, Ma., is a private facility associated with the Meadowbrook School. This recreational area includes baseball fields, volleyball and basketball courts and boats and canoes for use on a small pond. The site is located in a residential neighborhood to the north of the proposed Mass. Turnpike Interchange 14 widening. Access is from Farm Road which is a private way.
45. The Charles River Canoe Service located on the Charles River in Newton, MA., is a private non-profit boat launch which is open to the public. Additional facilities include canoe rentals and docks. The proposed Turnpike Interchange

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14 widening is located to the southwest of the site. Access to the site is from Route 30 which is a direct route to Interchange 14 on the Massachusetts Turnpike.

46. The Lower Falls Community Center Playfield, located on Grove St. in Newton, MA., is a municipal playfield with facilities including a playground, tennis courts, basketball courts and baseball fields. The site is located in a residential neighborhood south of the proposed Turnpike Interchange 14 widening. Vehicular access is from Grove Street but pedestrian access is also available from Pine Grove St. and Neil Cornell St.



MASS. TURNPIKE AUTHORITY
1988 IMPROVEMENT PROGRAM
ENVIRONMENTAL IMPACT REPORT

TABLE 2: RECREATIONAL SITES IDENTIFIED FOR DETAILED STUDY AS OF SEPT. 16, 1987

<u>Town</u>	<u>Site No.</u>	<u>Site Name</u>	<u>Air Quality</u>	<u>Noise</u>	<u>Traffic</u>	<u>Visual</u>	<u>Fisheries</u>
Southborough	2.	Finn School Playground/Mooney Field	X	X		X	
Frammingham	3.	Frammingham Country Club	X	X		X	
	7.	Cochituate Brook Cons. Land - Reardon Park	X	X		X	
Frammingham, Natick, Wayland	8.	Cochituate State Park	X	X		X	X
Wayland	15.	Lower Snake Brook Cons. Land	X	X		X	
	16.	Langdon Rd. Cons. Land	X	X		X	X
Natick/Weston	21.	Camp Nonesuch	X	X		X	X
Weston	22.	Rivers School Playfield				X	X
	25.	Wightman Tennis Center	X	X		X	
	26.	Winter-Wellesley St. Cons. Land	X	X		X	
	28.	Weston High School Playfield				X	
	29.	Weston Middle School Playfield	X	X		X	
	30.	Wellesley St. Cons. Land	X	X		X	
	31.	Norumbega Reservoir Jogging Area	X	X		X	
	35.	Pine Brook Valley Golf Club				X	
	36.	"Beginnings" Day Care Center Playlot	X	X		X	
	37.	Ridge Trail Hiking Area	X	X		X	
	38.	Ridgeway Rd. Cons. Land	X	X		X	
	42.	Norumbega Duck Feeding Pond				X	X

TRAFFIC DATA NOT YET AVAILABLE

Note: These sites will undergo a detailed evaluation. Additional sites may be added after completion of the traffic studies.



MASSACHUSETTS TURNPIKE
BOSTON EXTENSION

1987

EXISTING OPERATING CHARACTERISTICS

MAINLINE HIGHWAY - INTERCHANGE 15 TO 16

PEAK HOUR VOLUME Peak Dir. (vph)	SERVICE FLOW RATE (vph)	MAX. SERV. FLOW RATE (VPH)	V/C RATIO	SPEED & DENSITY	LOS
5680	6310	5820	1.08	55 38	D

BARRIER TOLL PLAZA 15 (WESTON)

	PEAK HOUR VOLUME	TOLL CAPACITY (No. of Toll Lanes)	TOLL PLAZA V/C RATIO
AM EB	2940	3600 (9)	.82
AM WB	1680	1800 (3)	.93
PM EB	1720	2800 (7)	.61
PM WB	2830	2400 (4)	1.18



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #6

August 5, 1987

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- o Review of Agenda
 - o Review of Meeting Notes - July 8 meeting
- 3:40 INTRODUCTION OF NEWLY APPOINTED CHAIRMAN OF THE
MASSACHUSETTS TURNPIKE AUTHORITY: *Allan R. McKinnon*
- 3:50 EIR REVISED SCHEDULE
Joseph Grilli, EIR Project Manager, HNTB
- 4:00 EXISTING TRAFFIC CONDITIONS
Joseph Grilli, HNTB
- 4:50 STATUS REPORT
Mary Beth Martin, EIR Coordinator, HNTB
- 5:00 OTHER BUSINESS
- o Date for next meeting: **Sept. 2, 1987 (proposed)**
- 5:30 Adjourn



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #6

MEETING NOTES [revised September 16, 1987]

Date: August 5, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Frederick S. Taintor
Town of Natick: George Wallace; William Costello
Town of Southborough: Charles E. Gaffney; Janice C. Conlin
Town of Wayland: Theresa DiCicco; Marcy Crowley
Town of Westborough: John Walden; Larry Gomes
Town of Weston: Richard Albrecht, Jean Thurston

Other Officials and Members of the Public

Don Cowles, Westborough
David Goodman, TAB Newspaper
David V. Hero, Westborough
Penny Kelley, Westborough
Barbara A. Smith, Westborough Chronotype
Bill Walsh, Middlesex News
Mel Willens, Vice Chairman, Natick Board of Selectmen

Massachusetts Turnpike Authority

Allan R. McKinnon, Chairman
Norma Fenochietti, Executive Assistant to Chairman
Peg MacKenzie, External Affairs Coordinator
M.C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Edward M. King, Director of Public Relations

Consultants

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff (HNTB)
Joseph Grilli, EIR Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Christer Ericsson, Traffic Engineer, HNTB
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson Associates

Barry Lawson opened the meeting, asked those present to introduce themselves and introduced Larry Gomes, who has replaced Rich Citro as LLG alternate from Westborough.

Mr. Lawson then requested comments on the notes from the July 8th meeting (LLG meeting #5). Two changes were suggested:

- George Wallace referred to his questions to Amy Braiewa, Terrestrial Ecologist for Jason M. Cortell Associates, during the discussion on the procedures for obtaining a use variance under the Wetlands Protection Act (page 3). Mr. Wallace objected to the

Technical Consultants

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Jason M. Cortell and Associates Inc.
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Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #6

MEETING NOTES

[revised September 16, 1987]

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phrase "DEQE requested that the project..." He said that DEQE does not have the power to make such a request. After some discussion, it was agreed that DEQE had "counseled" or "suggested" this approach, and that the minutes would be amended to so reflect.

- Richard Albrecht referred to his comments on Service Area 8E (page 9). Mr. Albrecht said he had stated that closing Service Area 8E should be considered as a possible option, not that the facility should be closed. It was agreed that the revised notes would reflect this change.

The minutes were then accepted as modified.

EIR REVISED SCHEDULE

Joseph Grilli, EIR Project Manager, HNTB

Mr. Grilli briefly reviewed the revised schedule and stated that schedule changes are due to delays in the traffic studies, which form the basis of many other impact studies. These delays were caused by problems collecting the data; bad weather in February and April; additional traffic counts agreed to during the review of the Technical Work Plan; and data processing difficulties due to the installation of new toll collection equipment. He said that the DEIR would be issued in December, three months behind the original schedule. A public information meeting or meetings would be held prior to the issuance of the draft, probably in November, and a public hearing would be held in January.

Comments and Discussion Points

- Marcy Crowley suggested that the submission of the DEIR be delayed so that the 30-day comment period does not conflict with the Christmas holidays. Mr. Lawson noted that the comment period could be extended and Mr. Grilli said that this would be considered.

- Jean Thurston asked why the public information meeting was being held before the submission of the DEIR. Mr. Grilli responded that the studies would be far enough along by that time to make the meeting useful. Mr. Lawson added that comments made at the information meeting could be used in the development of the DEIR. Ms. Thurston agreed, provided the public has access to the information to be contained in the EIR by the date of the public meeting.

- George Wallace asked if the sampling program could be extended into the fall. Mr. Grilli replied that, despite the delay in the completion of the study, there is no slack time; staff need all available time to complete impact evaluation and mitigation reports.

- Charles Gaffney asked when information will be available for review, particularly noise and traffic data, and wetland maps. Mr. Grilli replied that all raw data and other appropriate information would be placed in the repository at the Turnpike Authority's Engineering Offices as soon as it is available. It was agreed that Lawson Associates would publicize the availability of data.



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- Barbara Smith, of the Westborough Chronotype, asked whether a public meeting would be held in Westborough. Mr. Lawson replied that the meeting has not yet been scheduled, adding that a request has been made to hold one meeting in the eastern part of the area and one in the western part.

INTRODUCTION OF NEWLY APPOINTED CHAIRMAN OF THE MASSACHUSETTS TURNPIKE AUTHORITY: *Allan R. McKinnon*

Barry Lawson introduced Mr. McKinnon to the LLG. Mr. McKinnon began by telling the group that he has no preconceived notions about the EIR process and has not yet made up his mind about the 1988 Turnpike Improvement Program. He emphasized that the Turnpike Authority consists of a 3-member board which has voted for the program. He stressed that each member has one vote, though he hopes to exercise leadership in his role as chairman. Mr. McKinnon said that he sees his mission as ensuring that the Turnpike works efficiently and effectively, while being sensitive to community issues of concern. He added that the Turnpike is the people's road, but it must work in an environmentally sensitive manner. He introduced two new staff members, Norma Fenochietti, Executive Assistant to the Chairman and Peg MacKenzie, External Affairs Coordinator, who will help coordinate external relations for the Turnpike, along with Community Relations Director Ed King.

Comments and Discussion Points

- George Wallace asked about the role of the Secretary of Transportation in controlling the actions of the Turnpike Authority. Mr. McKinnon explained that the Turnpike Authority was originally established as an independent body because it was believed this would eliminate problems caused by political control. In recent years, the state has established the Secretary of Transportation to foster cooperation among all state transportation agencies. Mr. McKinnon said his attitude is to work with the Secretary. Although legally free to exercise his own judgement, he intends to do so within the context of policies set forth by the Secretariat.

- Marcy Crowley made reference to the requirements of the bonds issued for the Turnpike Improvement Program. She asked what alternatives would meet these requirements if the road is not widened. Mr. McKinnon stated that alternative solutions would be examined to determine their feasibility. These might include: traffic mitigation measures designed to help move traffic during rush hour (for example, use of the breakdown lane) or designation of a lane for High Occupancy Vehicles (HOV's).

- Larry Gomes asked Mr. McKinnon for the names of the other Authority members. Mr. McKinnon said the other members are Ed Hanley of Westwood and Anne McHugh of Holyoke.

- Theresa DiCicco urged Mr. McKinnon to protect citizens from the effects of growth on the Metrowest area. She stated that the need for good transportation must be balanced by the need to assure protection from negative impacts, particularly noise and water supply impacts; rest areas should be planned for sparsely settled residential areas. She expressed concern that the proposed new Interchange at Route 146 would exacerbate existing problems. Mr. McKinnon stated his belief that the project cannot be built unless a great effort is made to mitigate adverse impacts. With regard to the interchange at Route 146, he stated that Worcester is a large city which needs an interchange within its limits.

- Charles Gaffney asked whether Mr. McKinnon had considered the impact of the Turnpike Improvement Program on the already overburdened Route 128. Mr. McKinnon acknowledged the pervasiveness of traffic problems and the difficulty in finding solutions to the regional traffic situation. He noted that everyone wants public facilities to be located elsewhere, and that he is committed to mitigating projects to the greatest extent feasible.

- Jean Thurston asked about the status of plans (mentioned in the Supplementary FEIR on the project) to tie an expanded Shoppers World complex directly to the Turnpike. Mr. McKinnon said that Secretary Salvucci had a special interest in the Shopper's World project and in improving conditions on Route 9.

EXISTING TRAFFIC CONDITIONS

Joseph Grilli, HNTB

Mr. Grilli reviewed data on existing traffic conditions. Referring to overhead slides and a handout (*see attached*), he discussed traffic growth at Interchanges 11A, 12, 13, 14, and 15. Mr. Grilli showed the historical growth in average daily traffic and current average weekday daily traffic; existing travel desires (where travelers enter/exit); and existing operating characteristics on highway segments and ramps. He then compared this with information from the 1985 Highway Capacity Manual to show the level at which the Turnpike is operating and point out capacity deficiencies.

Mr. Grilli highlighted several points shown by the data:

- Traffic at Interchange 11A has recently been growing at about 12 percent per year, far more rapidly than the other Interchanges in the study area, which are growing at about 6 percent per year.
- Eastbound traffic is equally split between vehicles exiting to Route 128 and those continuing to Boston.
- Of those entering at Interchange 12 or 13 during the morning peak period, about 87 percent travel east - to Route 128 or the Boston extension.

Mr. Grilli explained the operating characteristics associated with the various Levels of Service, labeled A-F, and showed that many of the study area highway segments are operating at levels D and E. He indicated that the fairly high speeds found are higher than might be expected at that Level of Service, but are not uncommon for a commuter road in which the route is well known. In the case of the Turnpike, the high speeds achieved are due also to the Turnpike's favorable geometric and design features. Mr. Grilli stressed, however, that this is an unsafe condition, in which traffic follows quite closely. As traffic demand increases even minimally, speed can be expected to plummet to about 30 miles per hour. Mr. Grilli also showed the group data on ramp and toll plaza conditions, which showed significant overcapacity conditions at many locations.

Comments and Discussion Points

- Jean Thurston asked whether consultants have considered the effects of the proposed connection between Shoppers World and the Turnpike on the ramp's future capacity. Mr. Crain said that the project developers had contacted the Turnpike Authority one year ago. At that time, it was determined that the connection is feasible, subject to certain conditions (approval of the Mass DPW, designation of the road as a public way, among others). Since that time, the developers have not contacted the Authority concerning this proposal. Theresa DiCicco commented that the Massachusetts Turnpike Authority should be familiar with the status and plans for all roads in the area. She stated that the Authority appeared to be acting in a nearsighted manner with regard to regional roads. George Wallace noted that the effects on the Turnpike of the direct connection proposed must be balanced with the potential such a connection has to free up capacity on other local roads. Replying to the concerns expressed by LLG members on the effects of possible road projects, Mr. Grilli said that the analysis includes only committed projects rather than all possible projects in the area, regardless of their chances of implementation. The Massachusetts Turnpike Authority cannot solicit road connections between development access roads and the Turnpike.

- Larry Gomes asked for information on Interchange 15 (the Weston barrier toll facility) to compare design capacity with existing and future traffic. Mr. Gomes said that the key to the decision process is the effect of the 1988 Turnpike Improvement Program on the Boston Extension. Mr. Grilli explained that information for this presentation was focused on areas in which changes have been proposed. Information on Interchange 15 will be made available to the LLG.

- Larry Gomes noted that the ramp tolls at Interchange 13 act as a safety valve, keeping traffic moving slowly onto the Turnpike. He expressed concern that removal of tolls might heighten safety problems. Mr. Grilli explained that the 1988 Improvement Program

includes projects which will improve safety as well as capacity at this Interchange, including widening the ramps to and from the east; widening the Turnpike between Interchange 14 and 13; and, redesigning acceleration and deceleration lanes.

- Rick Taintor requested that the same traffic information be presented for the roads on the other end of the ramps. He noted that local communities might find it necessary to install stoplights or other traffic barriers on Route 30 and Route 9. Mr. Grilli said that the EIR will document these effects, and suggest mitigation measures which might be necessary.

- Mr. Grilli noted that all information and data, including assumptions made to arrive at traffic projections, will be available to the LLG and the public by late September or early October.

STATUS REPORT

Mary Beth Martin, HNTB

Ms. Martin gave a brief overview of the progress to date on the impact studies which form the basis of the EIR:

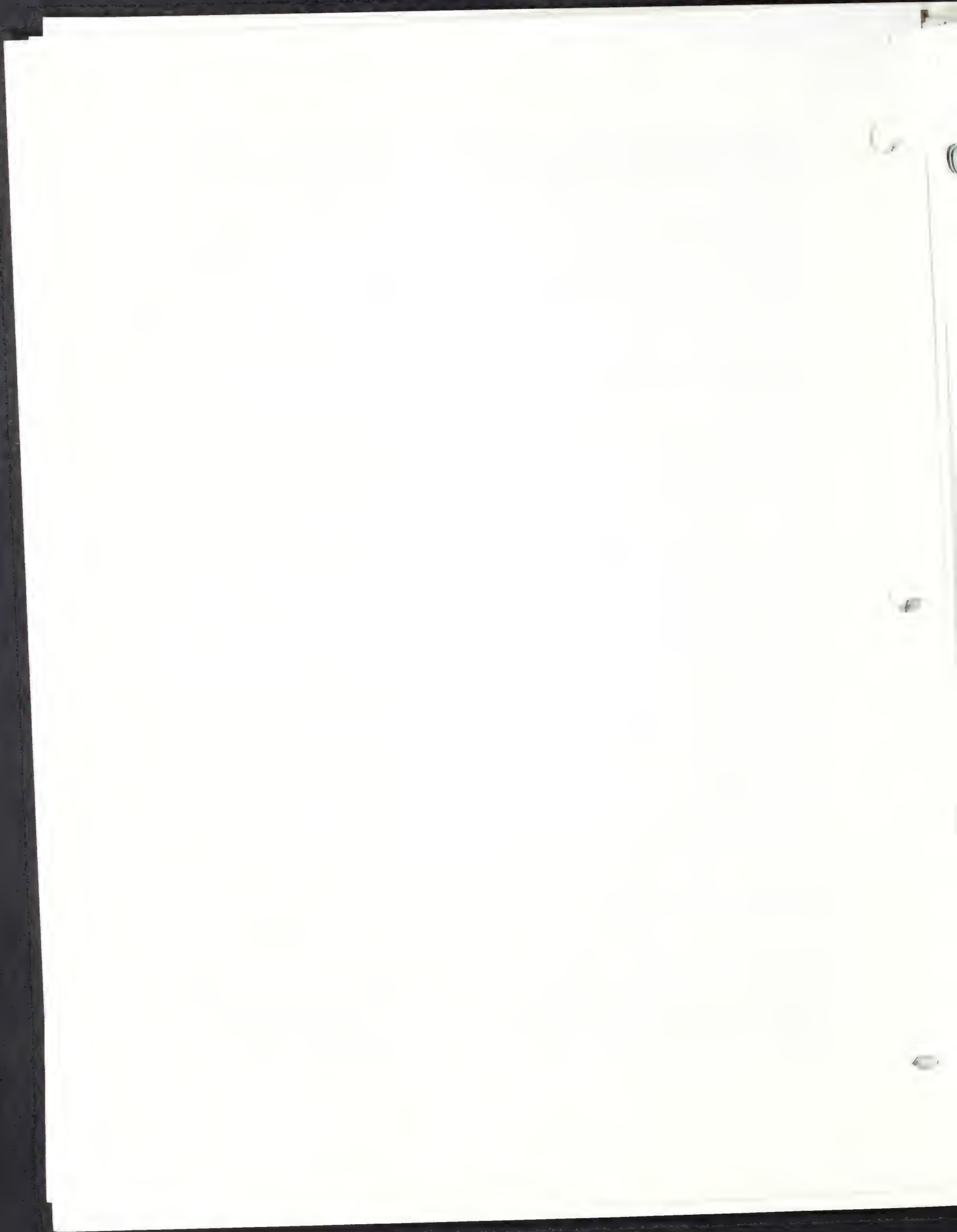
Noise: Data collection for the noise measurement program has been completed. Since the last report on noise measurements, the consultants collected information in Southborough. At three short term sites, noise was measured at 56 to 63 dBA, Leq; one long term site on Gilmore Road measured 67.7 dBA, Ldn (a measurement which penalizes nighttime noise). Consultants at Harris Miller Miller and Hanson are waiting for traffic projections to complete their noise modeling program.

Water Quality: The surface water sampling program has been completed. The data is now being compiled and will be available before the next LLG meeting.

Water Supply: Information on private wells sampling indicates that sodium levels in the Weston wells are currently well below the 20 mg/l which has been established as a state advisory standard. The level in Natick public wells is above that standard. Results of sampling in Westborough are not yet available.

Lighting: HNTB lighting engineers have undertaken detailed measurements, but will return to complete their program because some fixtures at Interchange 14 and Service Area 8E were broken.

Recreation: Preliminary data has been collected during site visits to 53 recreation facilities in the study area. Site screening is now being conducted and it is anticipated that approximately half of the sites will be included for detailed study to determine the probable impacts of the improvement program.



Archaeological Resources: The archaeological study of the proposed barrier toll plaza site has been completed. Sixty test pits were dug and no resources were identified. No additional studies are to be recommended. It is hoped that the Public Archaeology Laboratory will be available at the next LLG meeting to explain its results.

Comments and Discussion Points

- Rick Taintor asked whether data on surface water bodies is available and what form it will take. Ms. Martin replied that the data will include analysis for sodium as well as other parameters. It will be presented as a set of tables for each site.
- Charles Gaffney asked whether the wetlands/land taking maps have been completed. Ms. Martin replied that they have not yet been finalized.
- Richard Albrecht asked whether noise information will be presented in the form of noise contours and Ms. Martin said she believed it would be.

OTHER BUSINESS

- The next meeting has been scheduled for **Wednesday, September 2, 1987 at 3:30 p.m. at the Authority's Weston Engineering Offices.** The group agreed to hold **Wednesday, September 16** open in case an additional meeting is considered necessary.
- George Wallace submitted for the record a letter entitled, "Compelling Reasons for the Abandonment of the Proposed Expansion of Service Area 8E" (see attached)
- Mr. Wallace asked whether the LLG will be entitled to a vote during the finalization of the EIR. Mr. Lawson explained that the group has been set up as advisors to the Turnpike Authority, which would welcome any expression of opinions or advice. It would be up to the group if it wanted to take a formal vote on such advice.
- It was suggested that Westborough clarify the status of its LLG members/alternate.

COMPELLING REASONS FOR THE ABANDONMENT OF THE PROPOSED
EXPANSION OF SERVICE AREA 8 E.

1. IMPACT ON GROUNDWATER & SURFACE RUNOFF

The creation of an additional 66 truck parking spaces and associated flow pattern, an action which would increase the present capacity by more than 200%, at a minimum will render impervious 1.8 acres. This is totally unacceptable in an area delineated as an "Aquifer" area in Natick's Aquifer Protection Bylaw. The presence of 66 additional trucks in such a concentrated area increases the potential for chemical spills in this sensitive area together with other deleterious material and the loss of recharge to the Evergreen well, located 1500' downgradient. These issues are too critical to allow the expansion of Service Area 8E.

If this area is to be treated in the winter in the same manner as the mainline, at a rate of 20 tons per lane mile annually, it would add approximately 34.5 tons of Sodium Chloride. This together with the addition of about 50% of the Mainline expansion, or 7 lane-miles, that is in the same flow pattern, both groundwater and surface runoff of Lake Cochichewick and the Evergreen well, would mean an increased use of 174.5 tons of Sodium Chloride annually.

This is repugnant to the Town of Natick, which has already documented higher than acceptable levels of Sodium & Chlorides in the Evergreen well area.

2. AIR QUALITY & NOISE LEVELS

Addressed by William Costello by letter presented at LLG meeting July 8, 1987.

3. INCREASED SERVICES

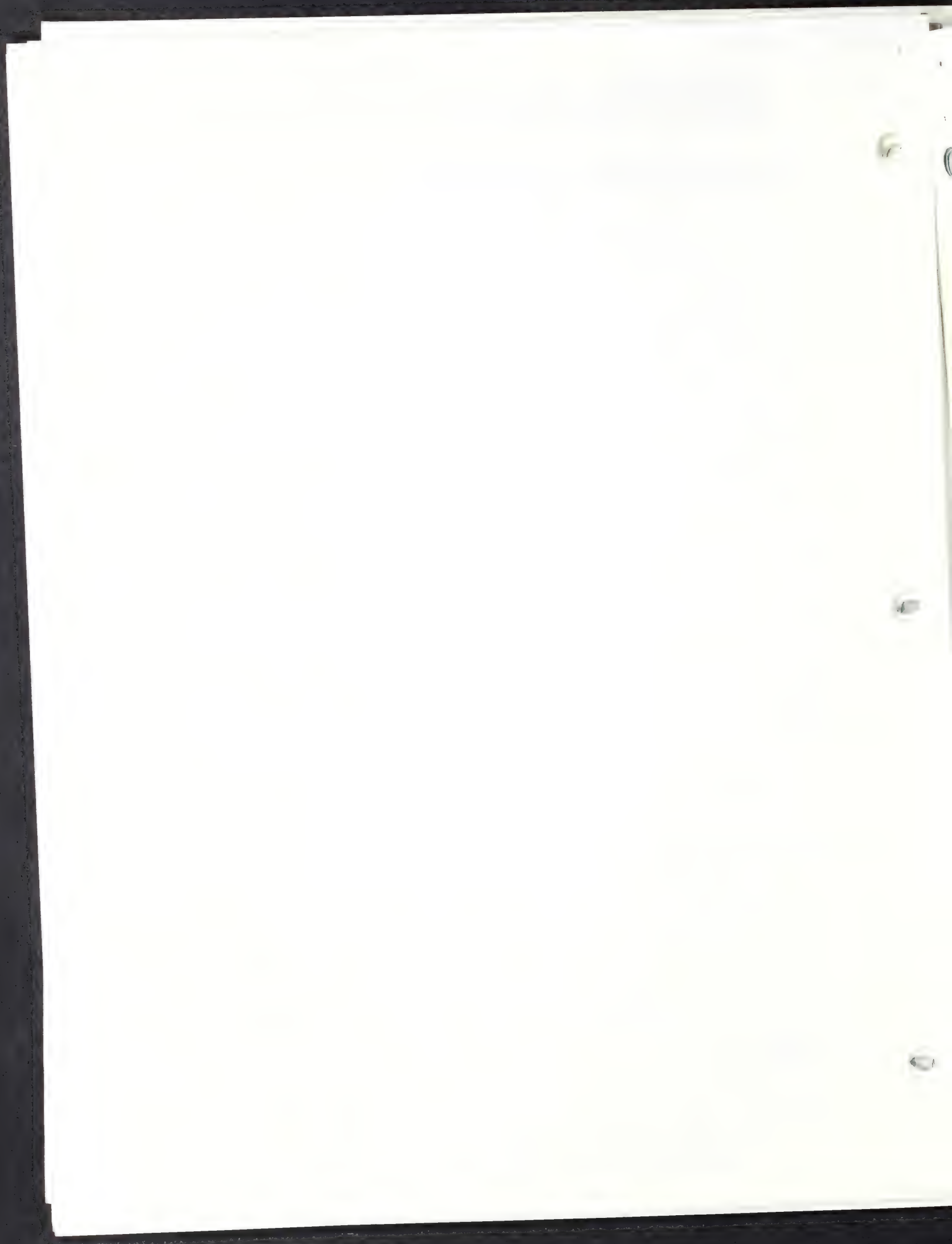
It is highly likely, that if the proposed expansion of Service Area 8E were to become a reality the proponent could justify the need for expanded facilities such as underground fuel and oil storage, repair services, etc., which further increase the threat to the Evergreen well.

These expansions would not be allowable under Natick's Aquifer Protection Bylaw.

4. ALTERNATIVES

No strong arguments have been made for the need for the proposed expansion of Service Area 8E. A point by point discussion follows:

- (1). A loss of space during winter conditions, this cites the inability of the Authority to properly plow or otherwise




2.

keep the area open to its existing full potential.

(2). Failure of the Authority to implement a timed parking limit, (30-45 minute period); failure to properly enforce the Ma. Idling law; failure to provide proper signage and ticketing which would eliminate long-term parking, and failure to provide an automatic signal system indicating closure of the service area if parking space capacity is exceeded. (3) Failure to indicate if the proposed expansion is necessary to ensure the financial stability of the service vendors. (4) Failure to demonstrate that the proposed expansion of Service Area 8E is in fact , providing a "unique service" that is not already available within 20-30 minutes East or West of Service Area 8E.

Unless compelling evidence is presented by the Authority to overcome the arguments raised above, I strongly oppose the proposed expansion of Service Area 8E.

George H. Wallace
139 North Main St.
Natick, Ma., 01760


George H. Wallace
LLG Member, Natick



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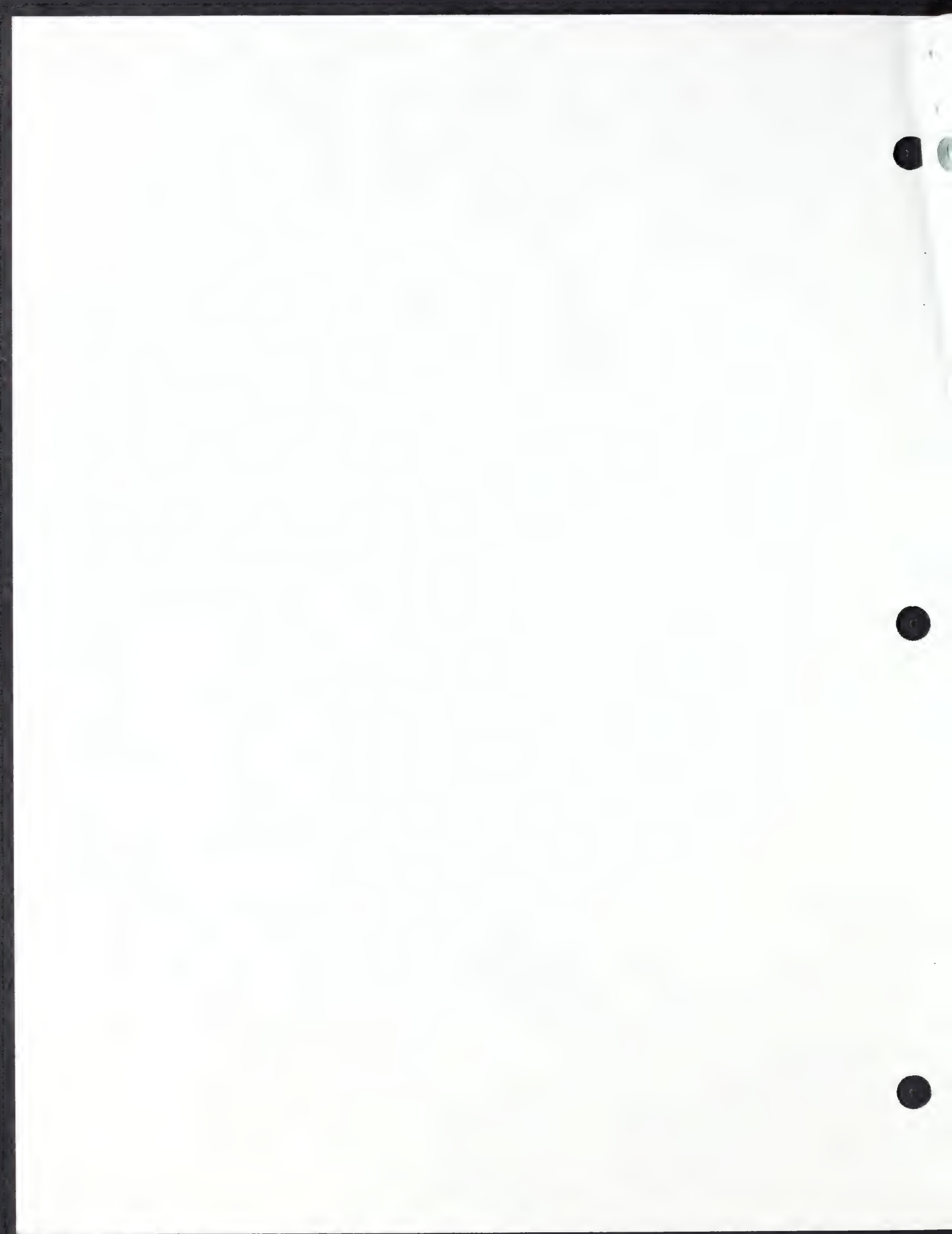
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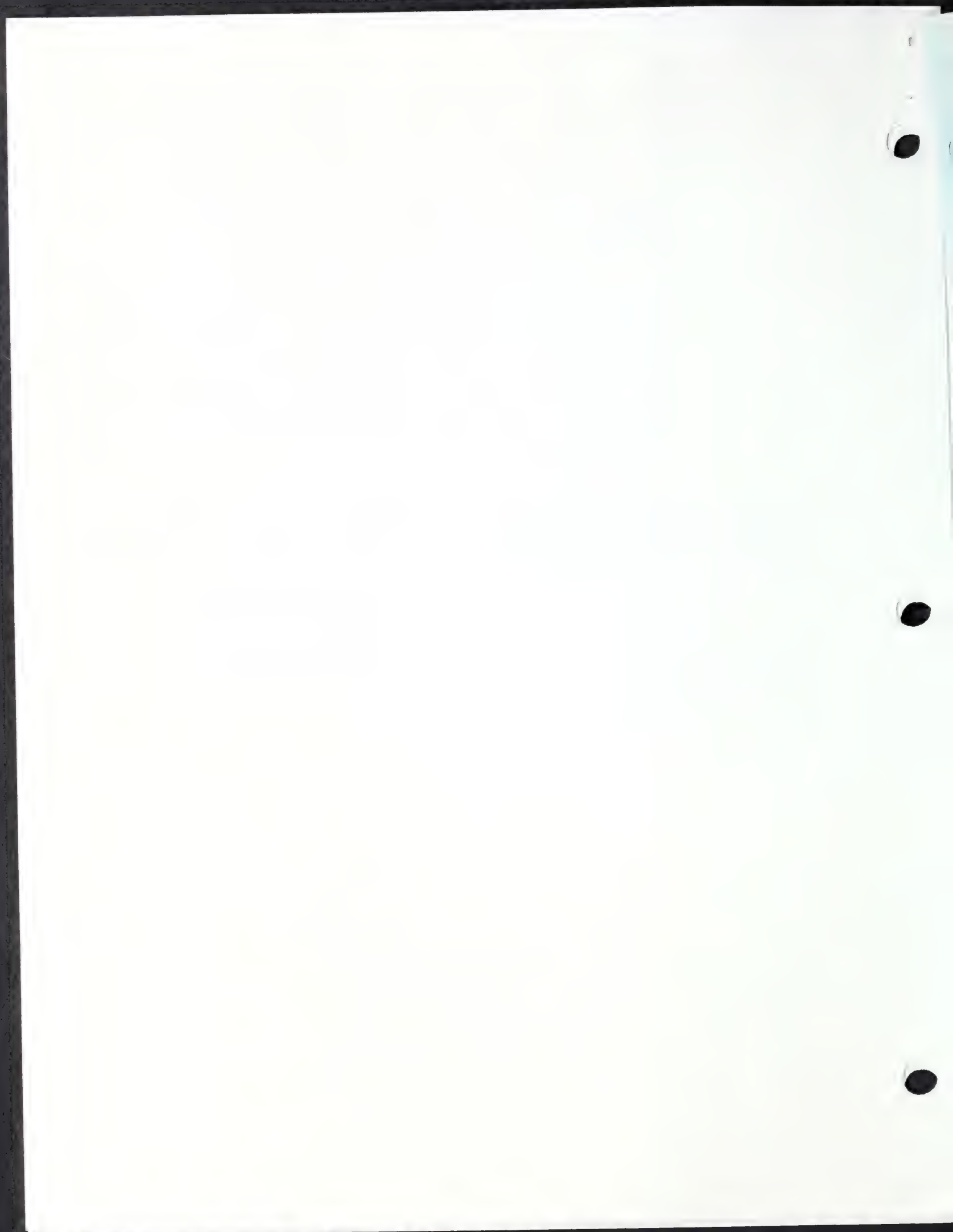
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George H. Wallace
LLG Member, Natick

George H. Wallace
139 North Main St.
Natick, Ma., 01760



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #7

September 16, 1987

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- o Review of agenda
 - o Review of Meeting Notes - August 5 meeting
- 3:50 IMPACT ANALYSES
- Archaeological Resources: Barrier Toll Plaza Site**
Ann Davin, Public Archaeology Laboratory, Inc.
- Historical Resources: Thomas Pierce House and Barn**
Gordon Turow, Howard Needles Tammen Bergendoff
- o Visual Impact Assessment
- 4:30 STATUS REPORT
- Recreation Studies**
Lisa Drucker, HNTB
- Other Studies**
Joseph Grilli, HNTB
- 5:00 TRAFFIC AND TRANSPORTATION: Interchange 15 (existing conditions)
Joseph Grilli, HNTB
- 5:10 OTHER BUSINESS
- o Information repository
 - o Next meeting: **October 7, 1987 (proposed)**
 - o Future LLG meetings
- 5:30 Adjourn

Technical Consultants
Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG)
Meeting #5

July 8, 1987

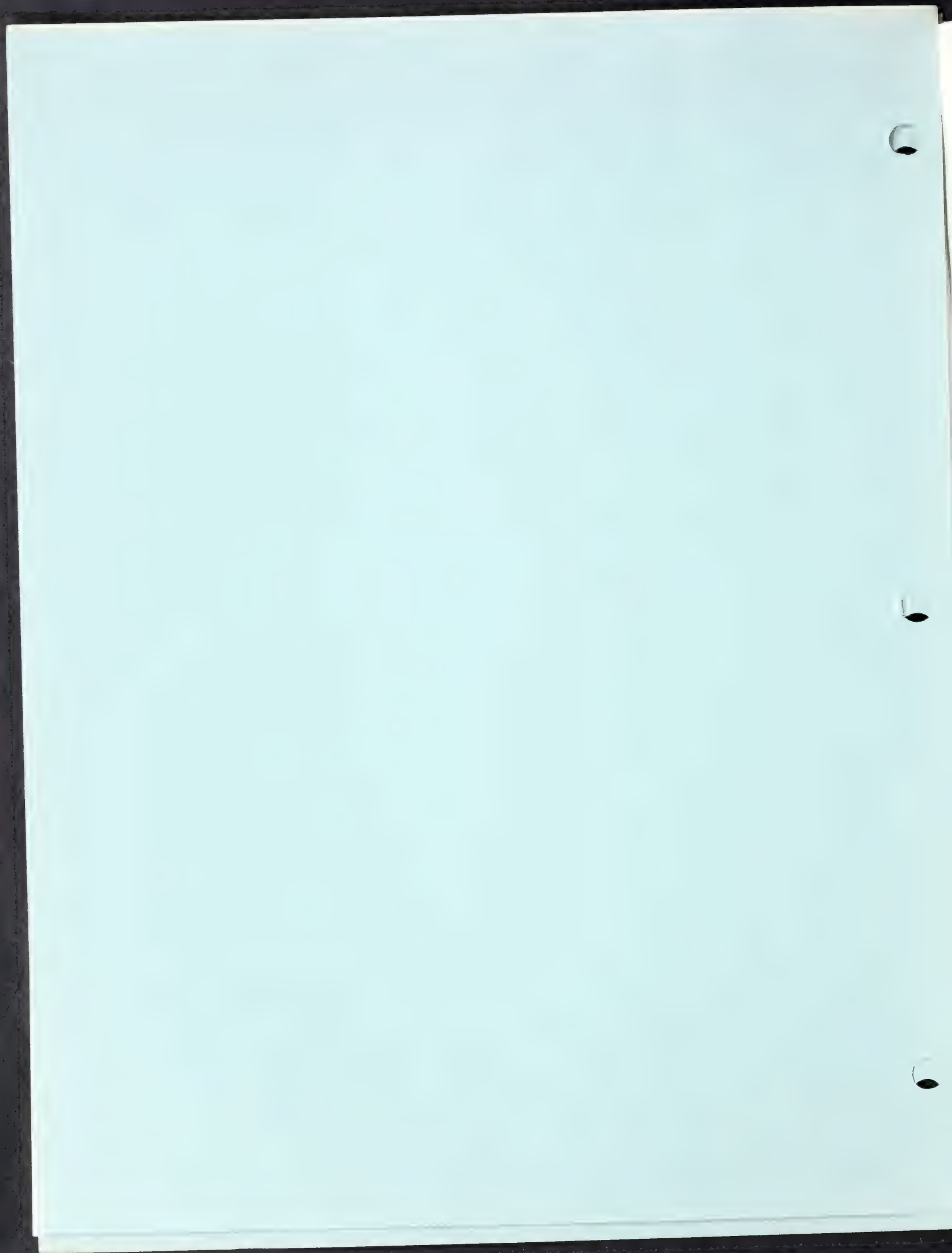
AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
- o Review of agenda
 - o Community Relations Plan: discussion
 - o Report on Field Trip
 - o Review of Meeting Notes - May 6 meeting
- 3:50 WETLAND STUDIES
Amy Braiewa, Wetland Ecologist, Jason M. Cortell and Associates, Inc.
- o Methodology for wetlands analysis
 - o Regulatory permit procedures
 - o Species of Special Concern
- 4:20 BARRIER TOLL PLAZA
Joseph Grilli, EIR Project Manager, HNTB
- o Barrier toll plaza layout plans (preliminary)
 - o Driveway alternatives under consideration
- 5:00 EXISTING TRAFFIC CONDITIONS
Joseph Grilli, HNTB
- 5:20 OTHER BUSINESS
- o Date for next meeting: **August 5, 1987 (proposed)**
- 5:30 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager - Ann Jacobson
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Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #5

MEETING NOTES
[revised 8/5/87]

Date: July 8, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Natick: George Wallace; Bill Costello
Town of Southborough: Charles E. Gaffney
Town of Wayland: Theresa DiCicco
Town of Weston: Richard Albrecht, Jean Thurston

Other Officials and Members of the Public

David Emerson, Wayland
Larry Gomes, Westborough
David Hero, Dover Instrument Corp., Westborough
Donna Scaglione, Weston TAB
Mel Willens, Vice Chairman, Natick Board of Selectmen

Massachusetts Turnpike Authority

M.C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Edward M. King, Director of Public Relations

Consultants

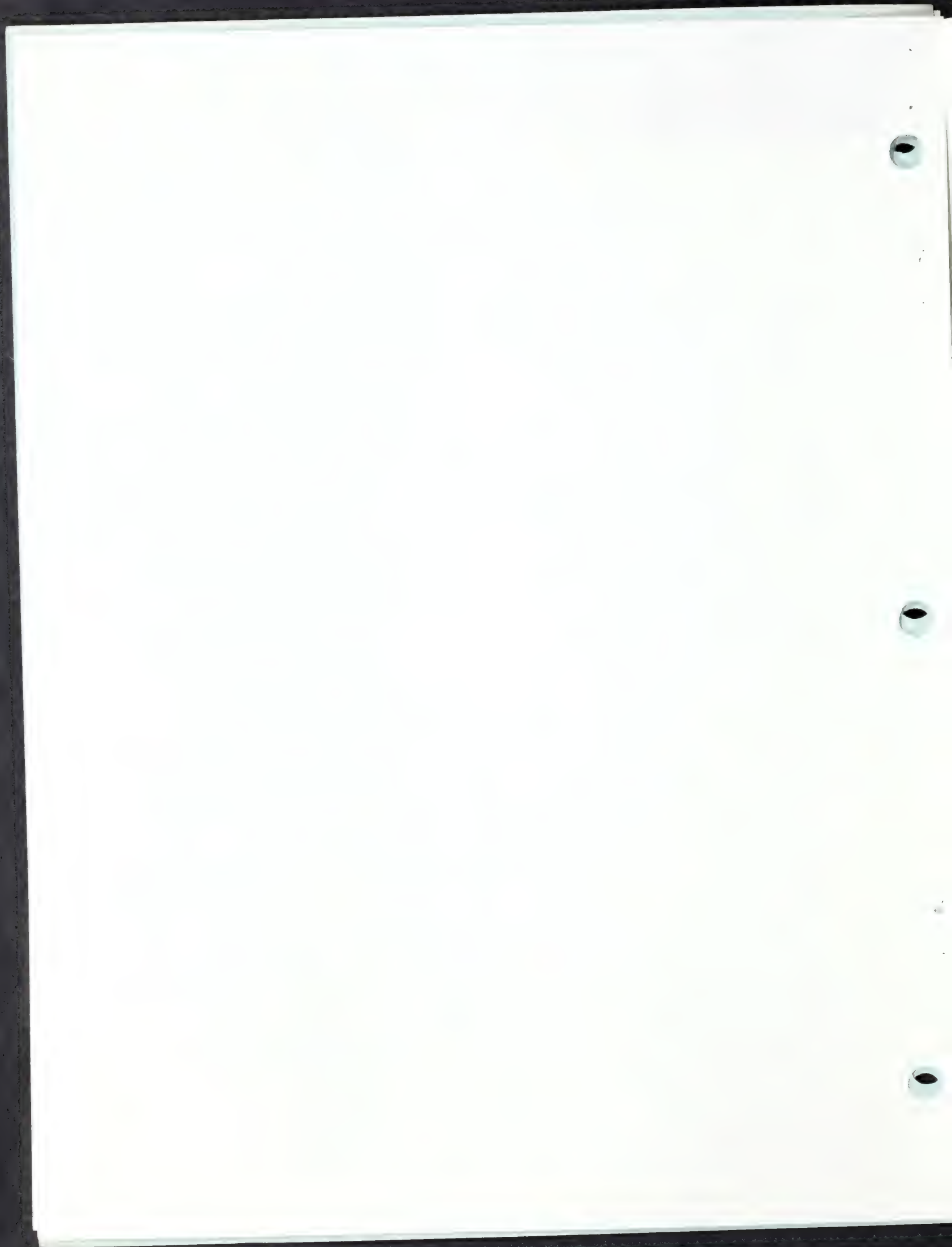
Gary Walsh, Massachusetts Turnpike Authority Project Manager,
Howard Needles Tammen & Bergendoff (HNTB)
Joseph Grilli, EIR Project Manager, HNTB
Lisa Drucker, Wetland Ecologist, HNTB
Ronald M. Insanally, EIR Engineering Coordinator, HNTB
Christer Ericsson, Traffic Engineer, HNTB
Peter Guldberg, President, Tech Environmental
Jeffrey Tarde, Environmental Scientist, Tech Environmental
Amy Braiewa, Terrestrial Ecologist, Jason M. Cortell & Associates
Carlton Noyes, Vice President, Jason M. Cortell & Associates
Barry Lawson, President, Barry Lawson Associates
Laurie Reynolds Rardin, Research Associate, Barry Lawson
Associates

Barry Lawson, as moderator, opened the meeting by requesting that those present introduce themselves. Mr. Lawson read through the meeting agenda and asked for comments. None were given. He noted that a presentation by Carl Noyes of Jason M. Cortell & Associates would be added to the end of the agenda. Mr. Lawson explained the function of the Community Relations Work Plan for the project and noted that it had been sent to all members of the LLG and that copies were also available in the repositories.

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
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The June 3 field trip was discussed. Mr. Lawson explained that Joe Grilli led the tour, and detailed which areas of the Turnpike were traveled. He mentioned that the main group was joined by several Westborough residents and the LLG representatives on Flanders Road. Comments on the trip were requested but none were received.

Theresa DiCicco asked if a date had been set for the public meeting or hearing, and if it would be held the end of August or the beginning of September. Joe Grilli said that delays have been encountered and the project schedule is being revised. Barry Lawson added that he did not think a public meeting or hearing would be held in early September. He explained that the project team was considering a meeting either just before or just after the EIR is submitted in draft form to the MEPA unit. Ms. DiCicco asked if there would be a comment period for the EIR. Mr. Lawson answered that it would be 30 days, with probably ten days of that period after the public hearing. He also clarified the differences between a public meeting and a public hearing: at a public meeting questions are encouraged to which answers are given by the consultants for the project; at a public hearing, comments are received and made a part of the official record, but no direct responses are given at that time.

Mr. Wallace asked if there would be a technical plan for mitigation which could be reviewed by the LLG and the towns' consultants. Mr. Grilli explained that data from the field surveys on existing conditions would be available beginning in September. Mr. Lawson and Mr. Grilli added that there would be time to review any information available.

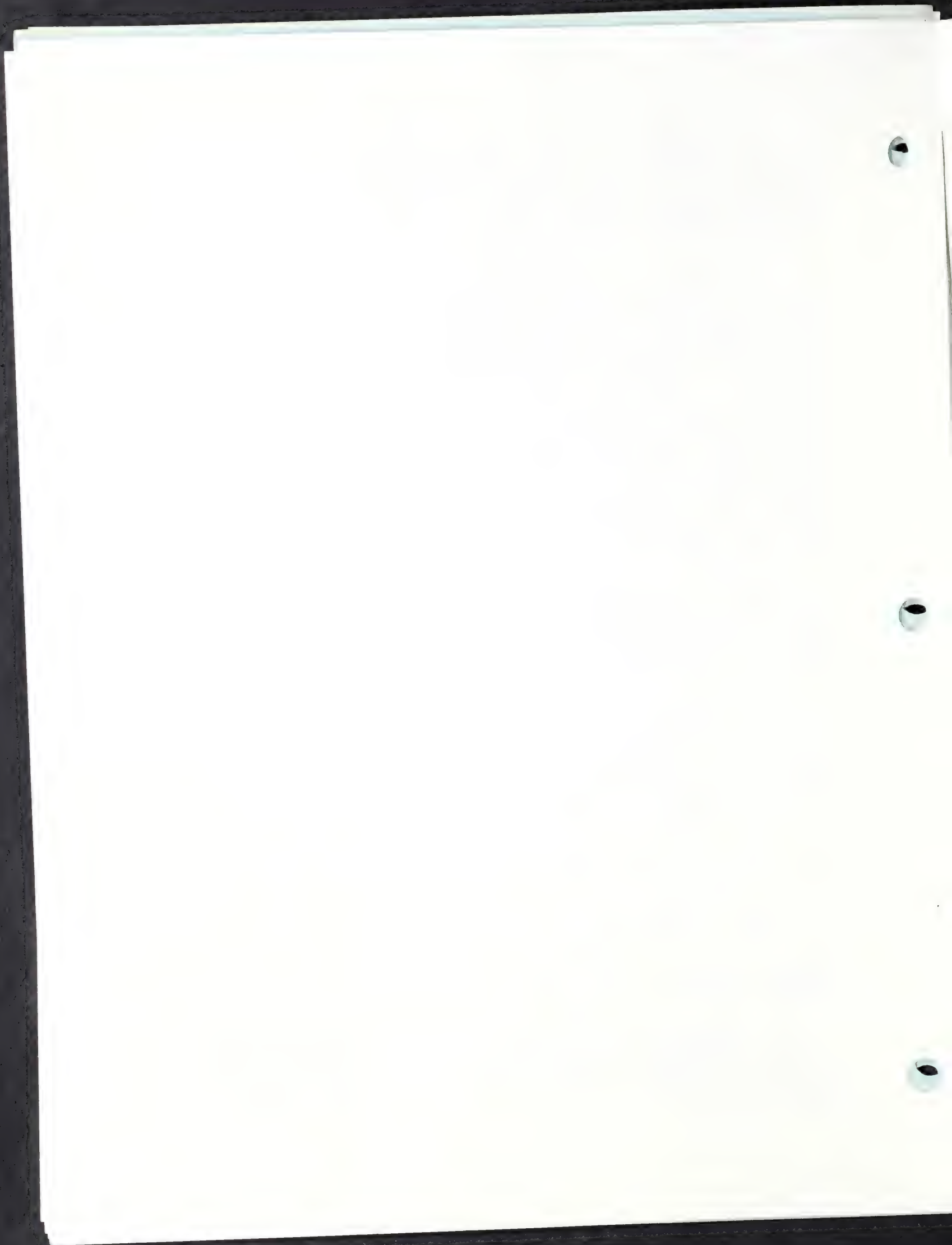
Richard Albrecht asked if there could be two informational meetings held before the draft plan is issued. He suggested holding one in the eastern part of the project area and one in the western part, to bring the public up-to-date on the issues involved in the project. Joe Grilli and Barry Lawson responded that the idea has been discussed, but it has not yet been determined where these meetings would be held or when.

Mr. Grilli mentioned that transportation information had been sent to Professor Kain and that it would be made available to anyone interested.

Barry Lawson received a motion moved that the minutes from the May 6 meeting be accepted. It was seconded and passed.

Wetland Studies - Amy Braiewa, Wetland Ecologist, Jason M. Cortell & Associates

Ms. Braiewa explained that 80-90% of the wetlands field work has been completed. The field studies between Interchange 13 and 14 are the closest to completion. Flagging, vegetation studies, boundary determinations, right of way, and field checking have been conducted.



She presented an example of the wetlands impact analyses using two color coded maps. Ms. Braiewa explained that the impacts on the 100-year floodplains for the study area streams are also being evaluated, and the results of those studies will be incorporated onto the maps. She stated that as the analyses continue, wetland mitigation measures will be developed. She detailed some of the efforts that would be made to save wetland areas including mitigation of direct and indirect impacts and noted that important wetlands will be looked at more closely. Among mitigation methods to be used are sedimentation control, wetland creation and replacement of lost flood storage area. She also explained that ditches which carry only runoff will not be included as resource areas.

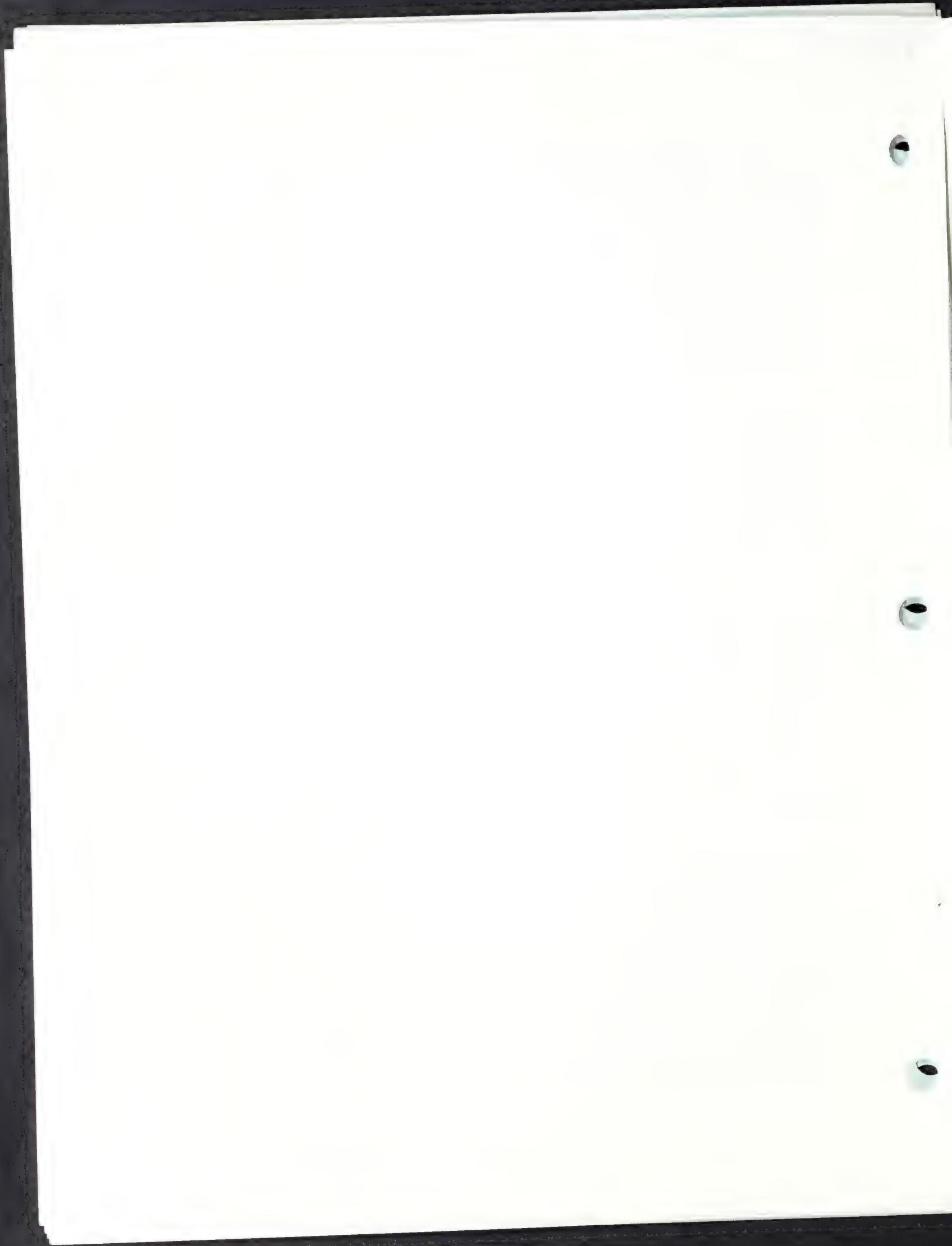
Ms. Braiewa also noted the Federal and State wetland regulations applicable for the project, and the fact that the Turnpike Authority must apply to DEQE for a variance from the maximum 5,000 square feet (s.f.) per town filling limit. Once DEQE grants a variance the local Conservation Commissions will be contacted and Orders of Conditions will be obtained from those Commissions. At the Federal level, the Army Corps of Engineers 404 B permit will be obtained. She noted that the Corps accepts the DEQE definition based on wetland vegetation.

Ms. Braiewa also explained that three of the endangered species recorded by Dr. Brown in his study had been located in her field studies. She pointed out their approximate locations on the map and explained how they may be impacted by the Turnpike Improvement Program. She stated that the DEIR would address impacts and mitigation measures in detail.

Comments and Discussion Points

- George Wallace asked if the eight interests of the Wetlands Protection Act would be addressed and Amy Braiewa said that they would.

- George Wallace asked Amy Braiewa if each community was being looked at separately under the Wetlands Protection Act for the variance applications. Ms. Braiewa explained that they were filing for Orders of Conditions individually for each town, but that HNTB had been counseled by DEQE to file as one project for the variance application, in view of the regulations and amount of wetland filling required. She reiterated that DEQE will look at it as one whole project to determine the eligibility for a variance, but that the project team will analyze the affected wetlands individually to determine the most appropriate mitigation measures. [Note that the variance application will not include wetlands in towns which would have less than 5,000 s.f. of bordering vegetated wetlands filling.]



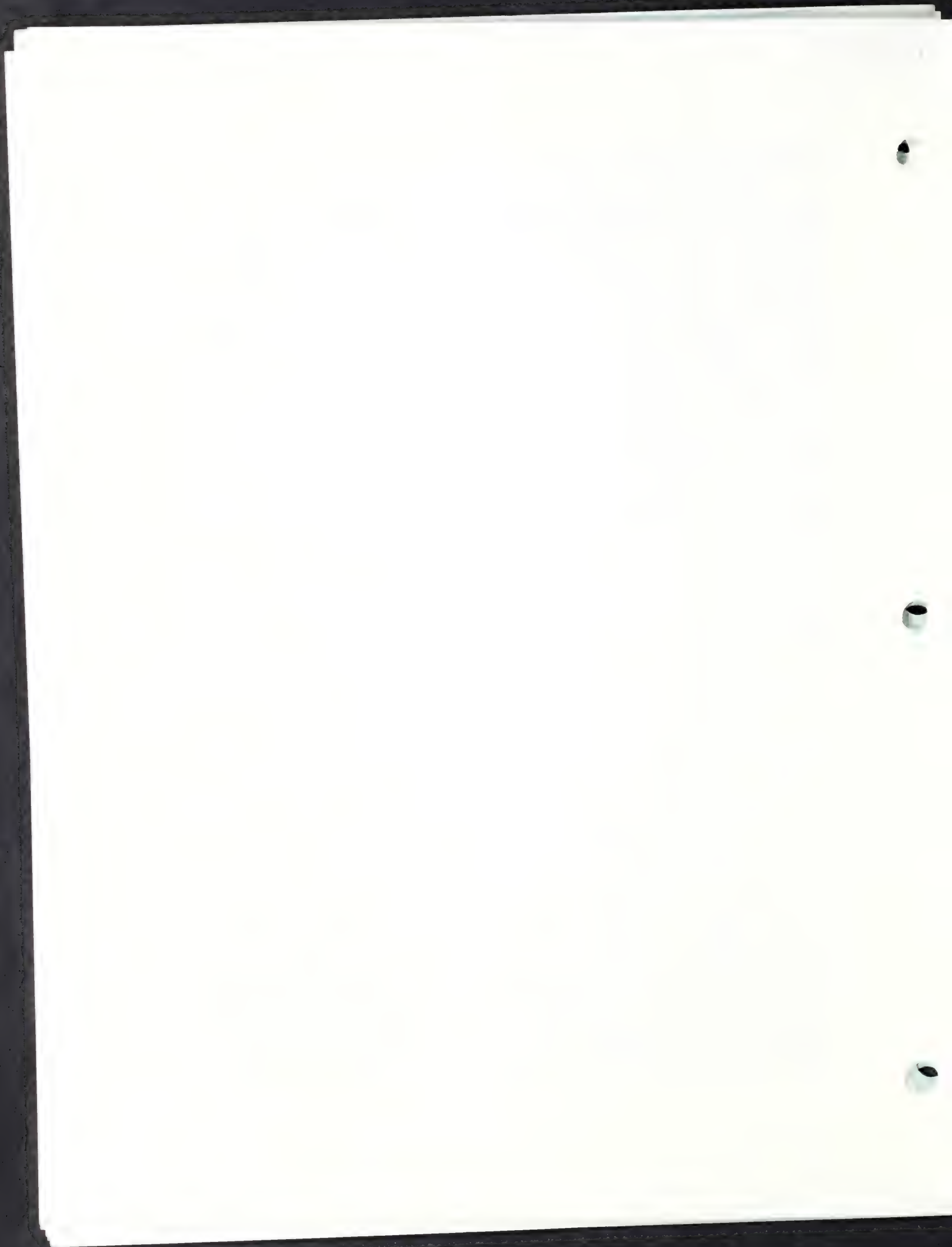
- George Wallace suggested that the Authority apply as a "limited project", allowing the local Conservation Commissions to issue Orders of Conditions for filling more than 5,000 s.f. of bordering vegetated wetland.
- Charles Gaffney asked when the wetlands study maps would be available. Joe Grilli stated that maps of existing wetland boundaries and contours would be available in August at the earliest.
- Larry Gomes asked how the LLG would be notified about the permits which are issued for the project and in which order they would be granted by the various agencies involved. It was explained to Mr. Gomes that DEQE, the local Conservation Commissions, and the COE would issue permits in that order, after the FEIR has been certified. The LLG will be kept informed of the progress through the monthly meetings. In addition, public notices are issued for the permit applications.
- David Emerson of Wayland, asked about using Verglimit on the Turnpike. Mel Crain responded that the Verglimit is a type of experimental pavement being used at Interchange 10. It contains an additive to retard icing. When calcium chloride pellets are inserted into concrete, the pavement exhibits an anti-freezing quality. The Turnpike has had some success with this system, but it is still experimental and must be used in controlled situations. Mr. Emerson also wanted to know if these methods would reduce the need for salt applications. [These systems are being evaluated to determine the extent of any reduced salt usage as well as to determine their engineering and safety feasibility.]
- Theresa DiCicco stated that she had spoken with a representative of a Swiss firm that makes the calcium chloride pellets and supplies them to the MTA. He told her that using the pellets does not prevent the need for plowing, but aids in keeping ice and snow from remaining on the highway after the initial plowing has taken place. Ms. DiCicco also asked if the Turnpike knew yet if they were using less salt as a result of the new methods. Mel Crain explained that they did not have that data yet.
- Ms. DiCicco asked how long the Verglimit lasts when put down with a new road surface. Mel Crain said that it depends on several factors.
- Charles Gaffney requested that Amy Braiewa come back to the LLG at a future meeting to show the wetland site maps of each town involved in the project.

Barrier Toll Plaza - Joseph Grilli, HNTB

Mr. Grilli presented the alternatives for location of the toll plaza utility building, parking lot and driveway which are under consideration. He showed the group detailed maps of the two locations (north and south sides of the Turnpike) including the wetland boundaries, existing pavement, proposed pavement increases, wetland areas to be filled, existing and proposed toes of slope, and the existing Turnpike property lines. The primary consideration in determining on which side of the Turnpike to site these features will be the amount of wetland that would have to be filled under either option. This is because of the statutory requirement to minimize wetlands impacts. We are also considering the proximity of the toll plaza to nearby homes and the safety of the driveway intersection with Flanders Road. He stated that the north side alternative has 86,000 square feet of wetland filling, while the south side alternative would fill 81,000 square feet. [These estimates assume no special design features and do not include replication areas.] From this preliminary evaluation, it appears that the building, parking lot and driveway should be on the south side because there would be less impact on wetlands.

Comments and Discussion Points

- David Hero asked how the property lines would change. Mel Crain explained that land taking would be limited to only the area required (less than 50 feet from the slope limit).
- David Emerson asked what the slope lines meant on the map. Joe Grilli answered that they are the limit of earth disturbance.
- Richard Albrecht asked if there were any proposed subdivisions on the south side of the toll plaza area. Mr Gaffney noted a recent proposal for an affordable housing development on some of the abutting land in the Town of Southborough.
- Charles Gaffney then asked how much additional land taking would be required for both options. Joe Grilli indicated that current estimates show approximately 15 acres would be required for either the north or south options. Mr. Gaffney also asked that the figure be broken up into acres per town. He was confused as to why the 15 acre figure was so much more than the 6.5-acre figure given in the ENF. Mr. Grilli responded that the driveway is now longer and the parking lot is larger. He also said that the original 6.5-acre figure was based on a 15-lane toll plaza while the 15-acre estimate represents the approximate area of taking for a 19-lane toll plaza. Mr. Gaffney was surprised that the plaza should be larger. Mr. Grilli explained that the number of toll lanes to be built will be determined after the traffic forecasts are completed, but early indications are that 15 lanes will not be sufficient to accommodate design year traffic volumes.



- George Wallace asked if the layout provides for compensatory land taking for replication of the wetland areas. Joe Grilli explained that the intent of the Authority is to keep replication measures inside the Turnpike property. [The final determination of land takings will depend on the number of toll lanes needed, the reductions in wetland filling achieved through use of steeper slopes, and the area needed for wetlands mitigation.]

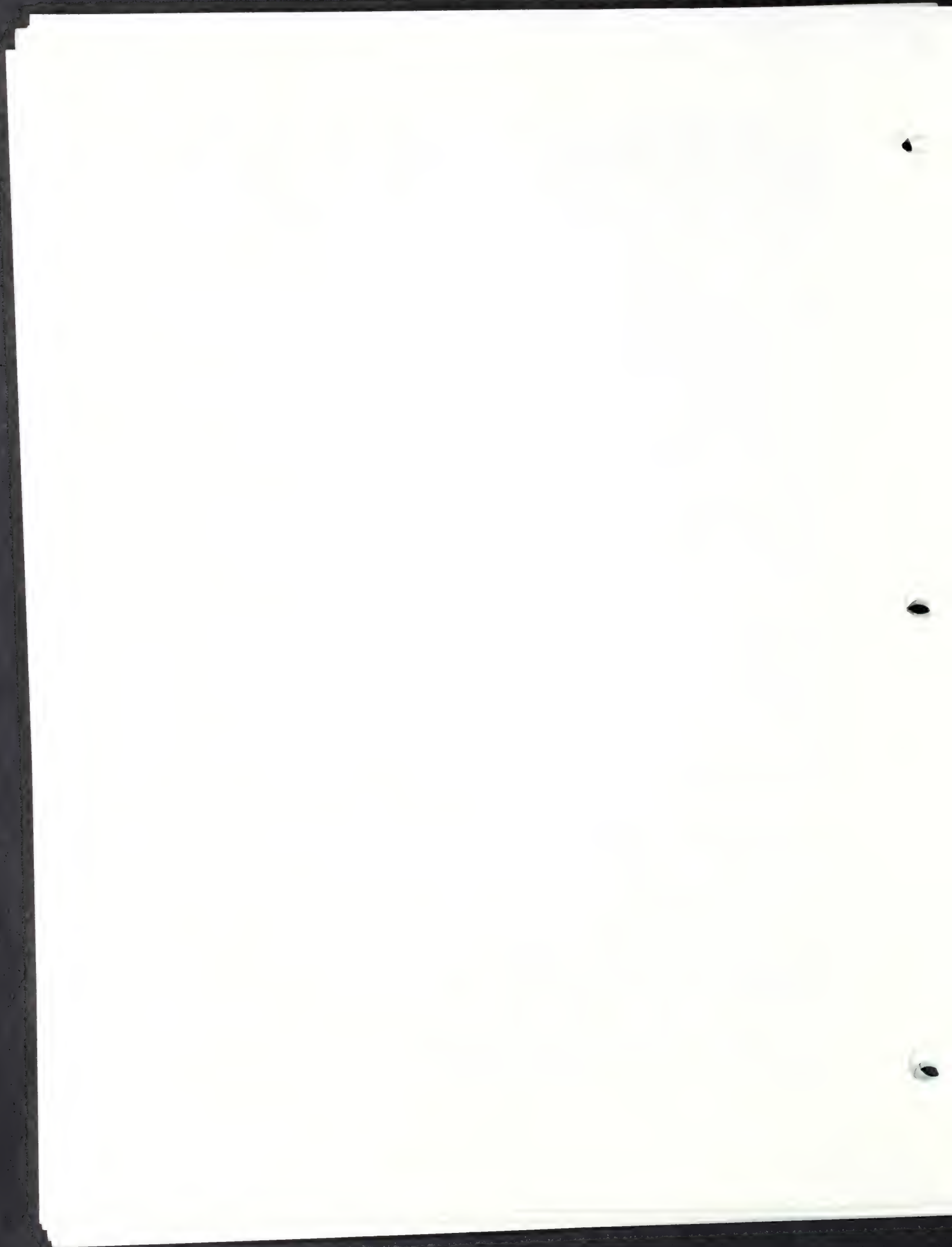
- Donna Scaglioni asked if the land taking for wetland replication was included in the 15 acres that HNTB has estimated they will take for the toll plaza. Joe Grilli responded that he would have to check on the wetlands mitigation areas. [These have not yet been identified.] He reemphasized that the main difference between the two options is that there would be less filling associated with the south side option. George Wallace pointed out that the Massachusetts Environmental Policy Act (MEPA) is triggered when an area greater than one acre is to be filled. [The EIR is being prepared in accordance with the MEPA regulations, and this "wetlands threshold" is applicable at earlier stages of projects.]

- David Emerson asked what type of agreement is entered into with a property owner who might have his slope changed as a result of the project. Mel Crain answered that a direct purchase or an easement could be used; and if the land is not required for total re-use, the process is easier.

- Larry Gomes asked if drainage was part of the wetlands study, and where the run-off will go. Joe Grilli explained that run-off currently goes into wetland areas, and it would have to be rerouted. He added that the engineers have not yet completed drainage studies. [Provision of adequate storage capacity for increased runoff is part of the wetlands analysis.] Larry Gomes went on to say that floods occur near Flanders Road (south of the Turnpike) when it rains heavily, and that increased highway run-off could result in a serious problem. He emphasized that this should be addressed in the EIR.

- Charles Gaffney asked for information on revised drainage patterns in the area of the proposed site for the barrier toll plaza. He also mentioned the need to have a public information meeting in Westborough and Southborough to explain the project's impacts to the public and stated that information on revised drainage patterns should be presented at that meeting. Barry Lawson agreed that this idea should be considered and said that the question of revised drainage patterns should be answered before going to a public meeting. Mr. Gaffney agreed and complimented HNTB and Mr. Grilli on the maps used for his presentations stating that they were very clear.

- Theresa DiCicco asked what the current proposed location of the plaza was on the presentation map. Joe Grilli answered that it was now 350 feet to the west of the original site. Mel Crain



said that the proposed plaza is at Mile 107.5 and the Town line is at Mile 107.6.

Traffic - Joseph Grilli, HNTB

Due to time constraints, Mr. Grilli presented a portion of the planned discussion on the studies of existing traffic conditions on the Turnpike. He showed a textbook graph of average speed and volume of traffic which demonstrated that low volume can mean high speed and as the volume increases the speed gradually decreases. Mr. Grilli also showed the relationship between the traffic density and the traffic volume. Another chart portrayed the level of service on the Turnpike between Interchanges 13 and 14 as a function of the speed, density and volume. The chart illustrated that current traffic volumes here are equal to the capacity of the highway. In spite of the high traffic volume, travel speeds are relatively high, but the Turnpike is running on 'borrowed time' with regard to capacity in the study area; and as development continues to increase, there will be even more traffic in this segment of the highway.

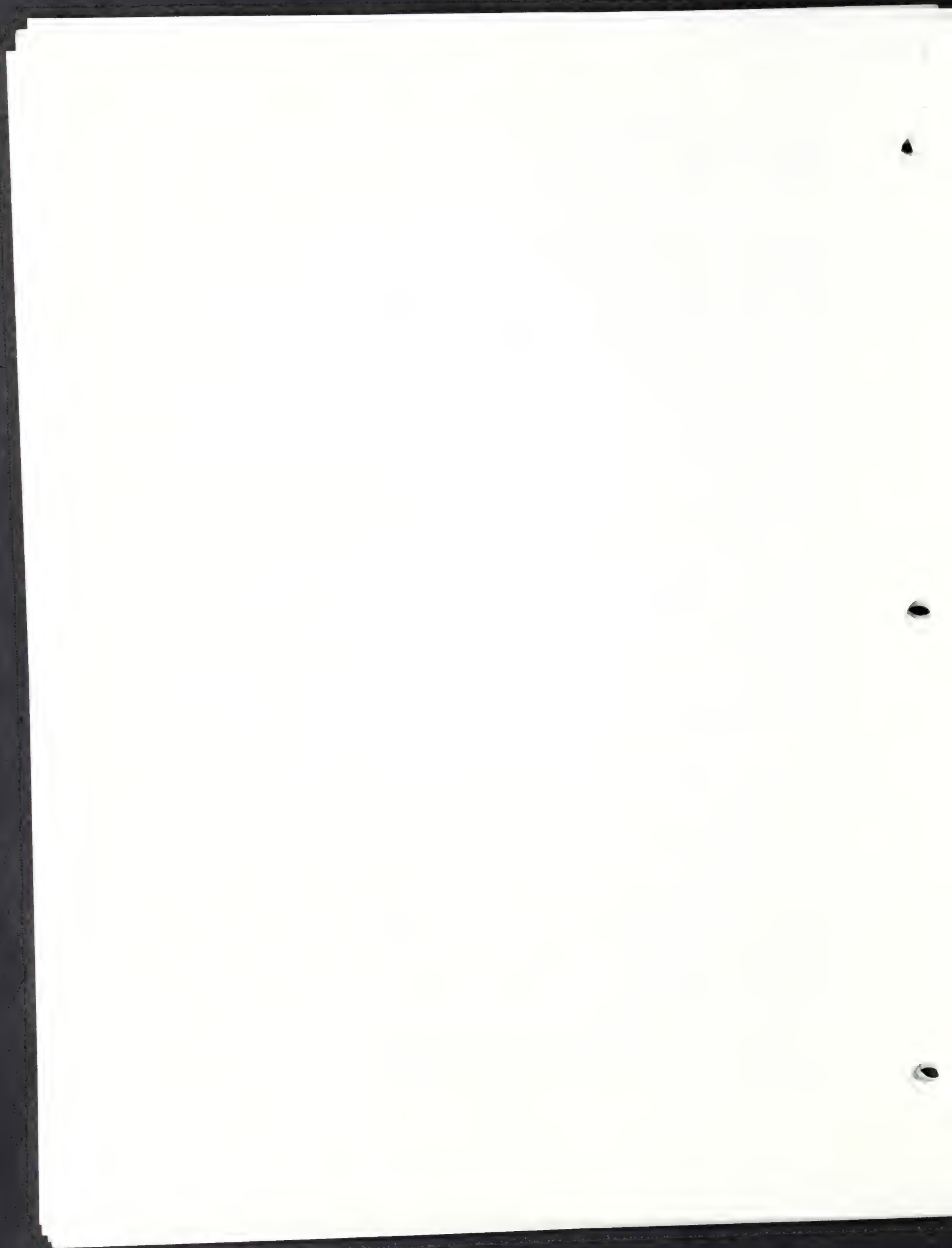
Comments and Discussion Points

- David Emerson mentioned that the Turnpike has one of the lowest accident rates in the country. Joe Grilli said that it is the safest highway in the state and that it is currently able to carry more traffic than he would have expected due to its large use by commuters familiar with the route, its excellent geometric features, and its extensive maintenance program.
- Theresa DiCicco asked Mr. Grilli to explain the meaning of a "28% increase in traffic" which has been publicized. Joe Grilli was not familiar with the figure cited, but he thought that it might represent a 5 percent growth over a five-year period.
- Donna Scaglioni asked if the 5% annual increase estimate was an overall figure for the eastern part of the Turnpike. Joe Grilli responded that it was.

Well Sampling Program - Carl Noyes, Vice President, Jason M. Cortell & Assoc.

Mr. Noyes explained that letters had been sent out to representative private well owners informing of the sampling schedule. Cortell will be sampling the wells next week. The proposed private well program has been reviewed by DEQE and Weston Geophysical Corp., the communities' consultants. DEQE plans to review the Draft EIR to be sure that a sufficient number of wells is included in the study.

Cortell has completed the groundwater flow analysis. They have also field checked the turnpike drainage system.

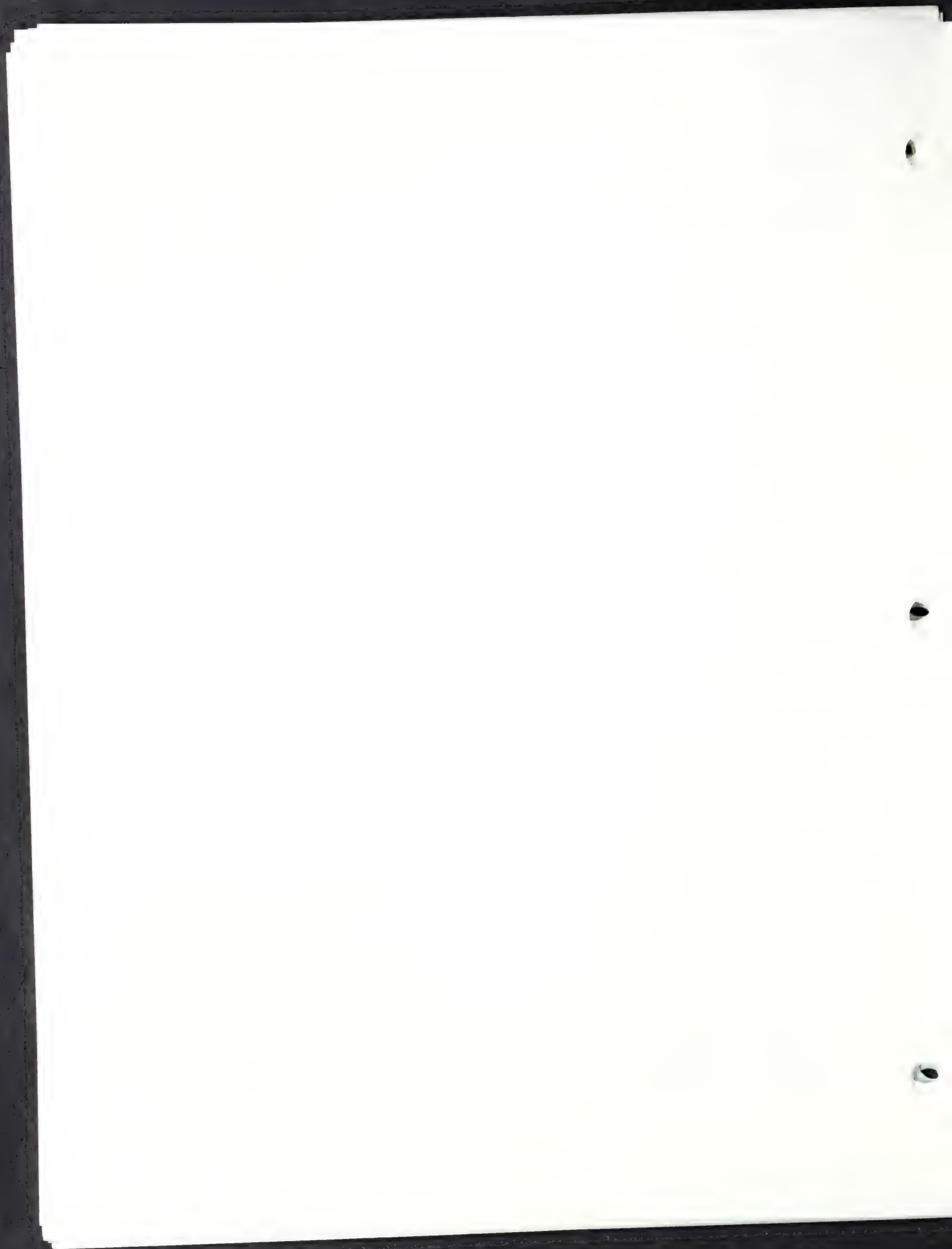


Comments and Discussion Points

- George Wallace asked if the public water supply was being tested. Mr. Noyes responded that, in Natick, the Evergreen Wellfield will be sampled.
- Larry Gomes asked if the list of people whose wells were sampled is available, and what percentage of the identified wells will be sampled. Carl Noyes answered that 25 wells out of the 107 inventoried will be included in the study. Approximately 50% of wells for which questionnaires were returned are to be sampled.

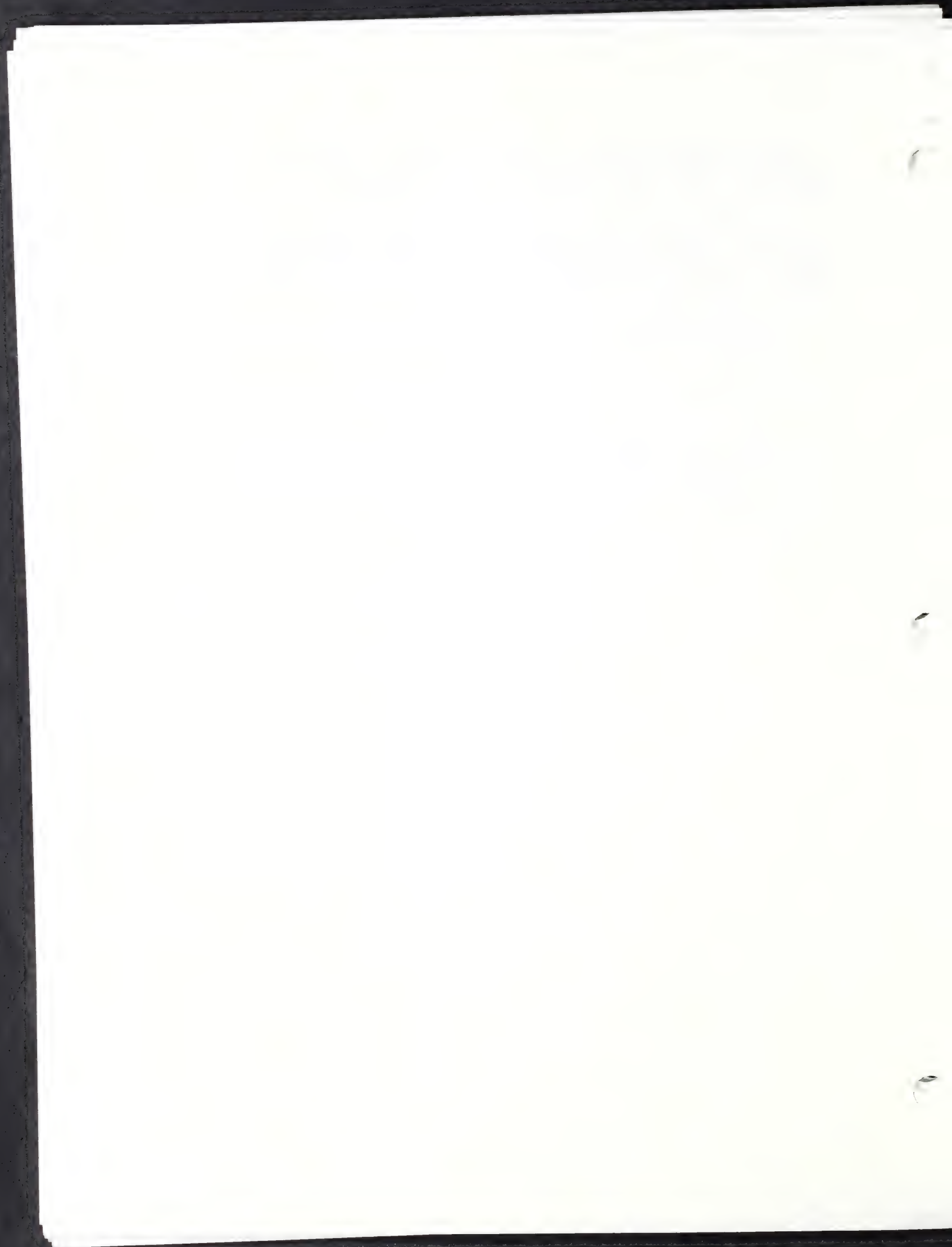
Other Questions and Discussion

- Theresa DiCicco asked Mel Crain if the Turnpike Authority had any plans for feeder roads which would bring people into Boston from Rhode Island and if there is a Master Plan for the Turnpike. Mel Crain answered that the Turnpike Authority has no plans for an access road and no overall Master Plan. Ms. DiCicco asked if the State had any plans to construct such a road. Mel Crain explained that the Turnpike Authority is preparing (in cooperation with Mass. DPW) an EIR for the widening of Route 146 and its possible intersection with the Turnpike and with Rte. 20. Rte 146 leads south toward Rhode Island. Ms. DiCicco asked if the proposed plans for Route 146 would impact this project when it was finished. Mr. Crain responded that Route 146 was being considered for improvement by the Mass. DPW to serve the Worcester area and that the Authority is now working with DPW on the study of the project's feasibility and impacts.
- David Emerson mentioned the New London-Worcester, Route I-395 project recently completed, and wondered if the impact of that road on Turnpike travel had been monitored and thus provided any indication of the likely impact on the Turnpike of a new interchange such as that proposed for Rte. 146.
- George Wallace mentioned that there were a number of rumors about the transition to the new Turnpike Authority Chairman affecting this project. He also wondered if it was true that the Secretary of Transportation might intervene during the project review period. He asked for clarification on what effect these gentlemen will have on the progress of the project. Ed King explained that the new Chairman of the Authority, Allan R. McKinnon, had wanted to attend this LLG meeting but as this was his first week he was still familiarizing himself with all of the Turnpike's projects. George Wallace reiterated that he wanted to make sure the Group was not just 'spinning its wheels.'
- Barry Lawson mentioned that if the project begins to move forward quickly it may be necessary to start holding two meetings per month, each lasting two hours. He asked if the next meeting of the LLG could be August 5th at 3:30. The Group agreed.



- Bill Costello read a written statement which detailed his questions on the ENF Certification for Service Area 8E. He submitted a copy for the record. [See attached]
- Mel Willens asked if someone could check the number of trucks at Service Area 8E to see how much idling is taking place. He suggested putting up a fifteen foot barrier around the Service Area to send the smoke from the truck exhausts up instead of directly into people's homes.
- Richard Albrecht stated that closing Service Area 8E should be considered as an option.
- George Wallace advised that proper signage be placed at Service Area 8E.
- Larry Gomes asked if the accident research for toll barriers versus ramps had been completed. Joe Grilli responded that consultants had gone through State Police records and compiled accident reports for the study area. Engineers are now analyzing the reports.

The meeting adjourned at 5:45 p.m.



Submitted at LLG meeting, 7/8/87

RECEIVED

JUL 16 1987

I would like to address the issue of the parking area designated as 8E, and located in Natick.

H. N. F. & B.
BOSTON

I would refer to Executive Office Of Environmental Affairs #6198A,B,C,D, ENF Certificate dated 10-1-87.

Item I. Purpose and need for the project based on a review of traffic and accident data on the Mass Pike from Rt. 128 to I 495. Describe the need for and goals of the proposed change.

I have listened carefully and to date have heard no sound reason for this expansion. The representatives of the Mass Pike have referred to traffic studies which will give us counts of how many and what types of motor vehicles pass a given point in a stated time period. This does not directly relate to the need of a parking area. We have heard the commanding Officer of the State Police for the Mass Pike describe a dangerous and hazardous condition that exists when trucks are illegally, and I repeat illegally, parked where they should not be. This also does not relate to the need of a parking area, but points out the need for additional personnel for better law enforcement.

Item III. Air Quality

Again the representatives of the Mass Pike feel that Air Quality can be determined by the modelling method. The representatives of the Mass Pike also state that if there is an idling law on the books then they and also the DEQE assume that it is enforced at the 100% level. However the Commanding Officer of the State Police Troop stated that when his men are present the law is enforced 100%, however he is again limited by the available personnel and when the state police team is not present there is no virtually no compliance with the law

It is my considered opinion that The Massachusetts Turnpike and the Air Quality consultants contracted for this job have attempted to evade the true effects on air quality of this proposed parking area. This testing should have been done during the winter months when the great majority of the trucks are left with engines idling for hours and one can visually see a pall of exhaust fumes hanging over the area.

Without actual monitoring of this area during winter months when virtually all parked trucks are left idling, some for hours. can the true effect on air quality be measured

This area is unique and should be treated as such.

Item VI.

Surface water run off and Potential spills.

Surface water from the present area is drained directly into Lake Cochituate at the closest point to the Natick water supply known as Evergreen wells with no filterization or attempts to keep oil or other foreign substances out.

There is no reason to expect that an enlarged area will be treated any differently.

Item XI. Alternatives.

The alternatives to enlarging area 8E are very basic enforce the current laws (more troopers if needed), this will eliminate the need for the enlarged parking area and in addition it will provide a side benefit in that the trucks will not be leaving the area enmasse in the mornings when we already have our heaviest traffic flow.

In answer to the question of tired truckers needing to get off the road, one has but to travel only a few minutes to route 128 and you will find rest areas both north and south of the Turnpike intersection which have not been overloaded with trucks when area 8E is.

In closing I would like to again refer to Item I. "Describe the need for and the goals of the proposed changes."

There has been no data made public to show a need for this expansion. True it would eliminate a dangerous condition, however enforcement of the law would accomplish the same thing faster. Therefore I would suggest that the proposal for expansion of area 8E should be dropped from the proposed expansion plans, or the schedule for drafting the E.I.R for this portion of the project be postponed until air quality testing can be accomplished during winter months.

William F. Costello
Member LLG.

William F. Costello
30 Hammond Rd
Natick, Ma.

1988 TURNPIKE IMPROVEMENT PROGRAM

Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Massachusetts Turnpike

TRAFFIC DATA

Local Liason Group Meeting

August 5, 1987

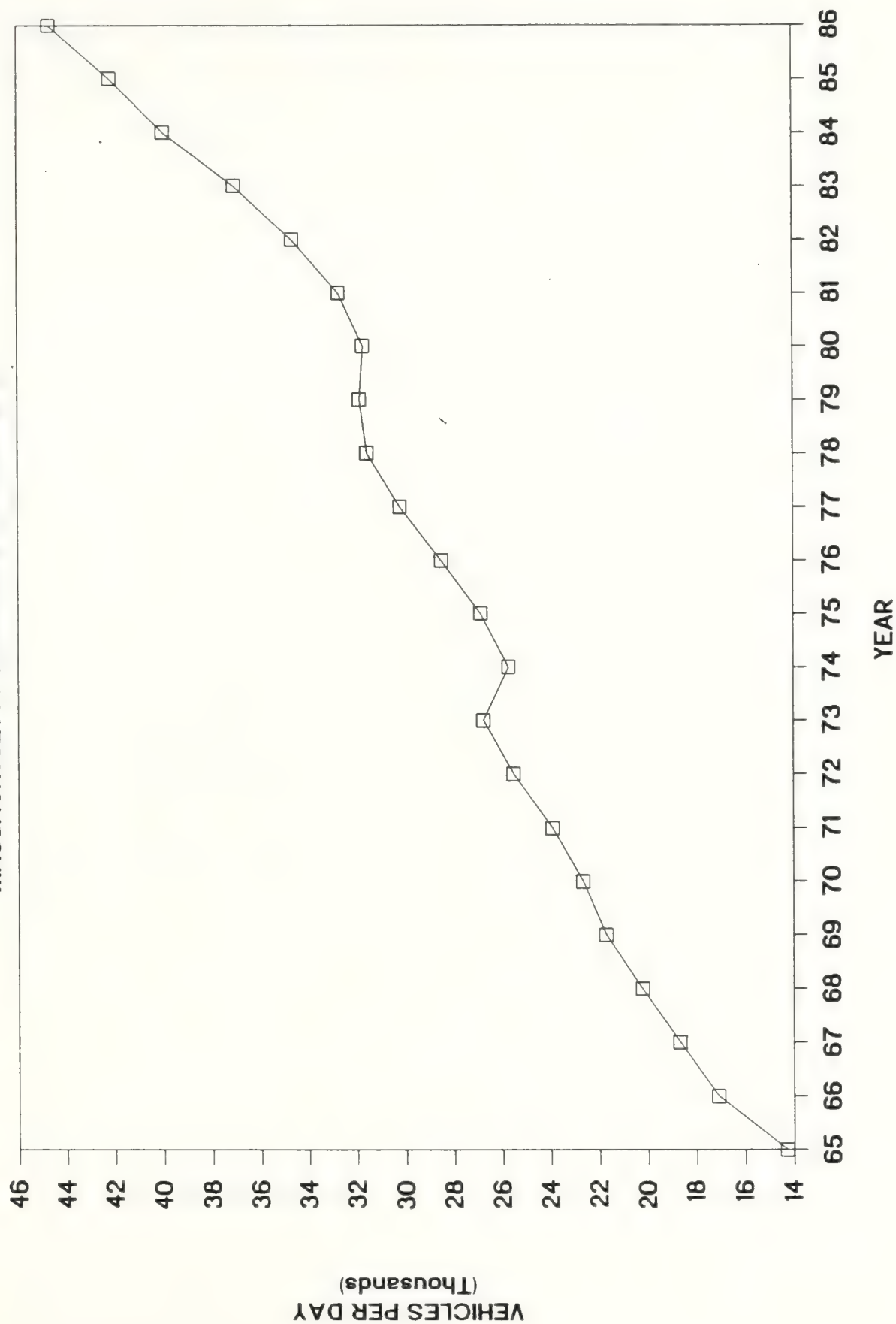
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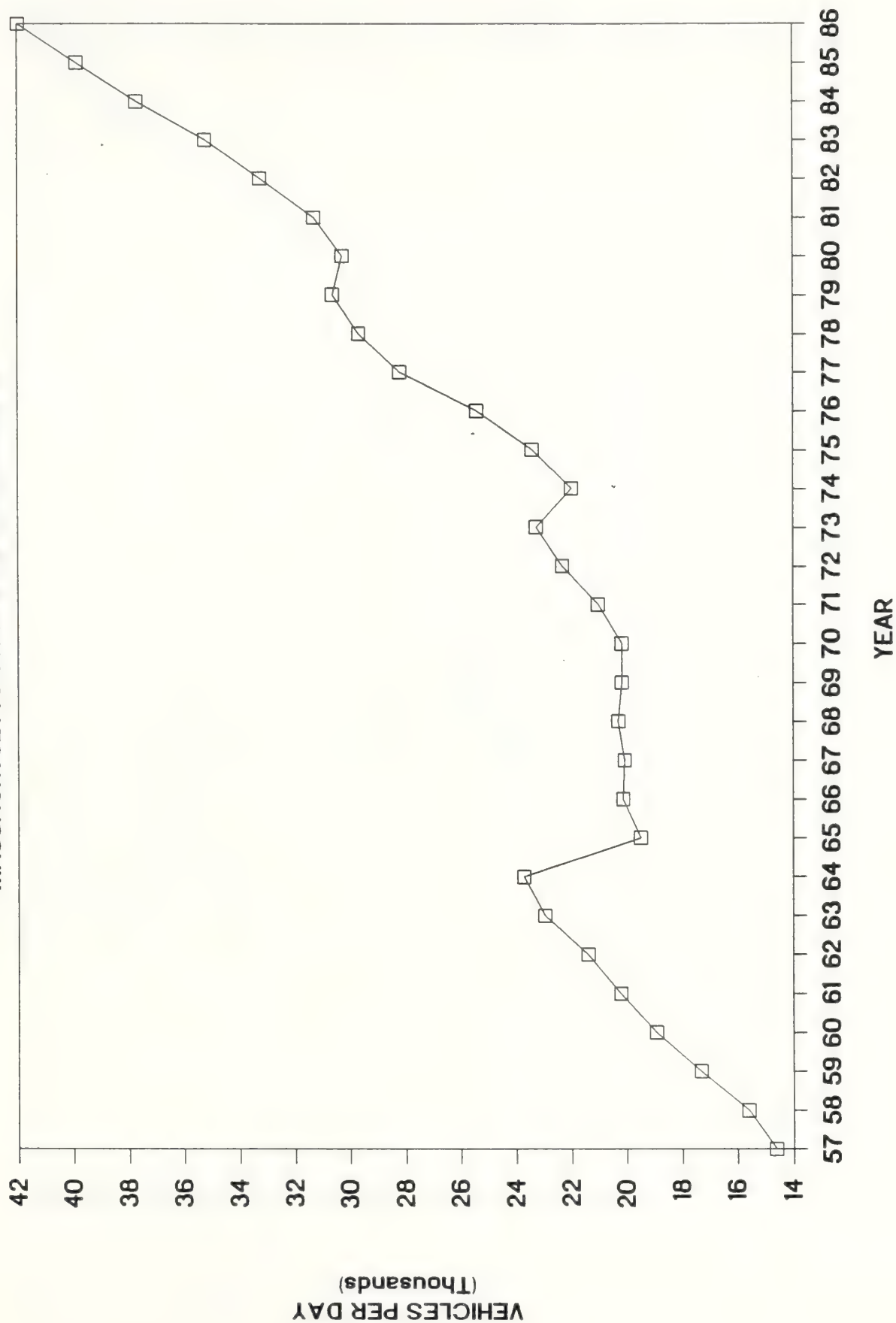
AVERAGE DAILY TRAFFIC (ADT)

MASSACHUSETTS TURNPIKE INTERCHANGE 15



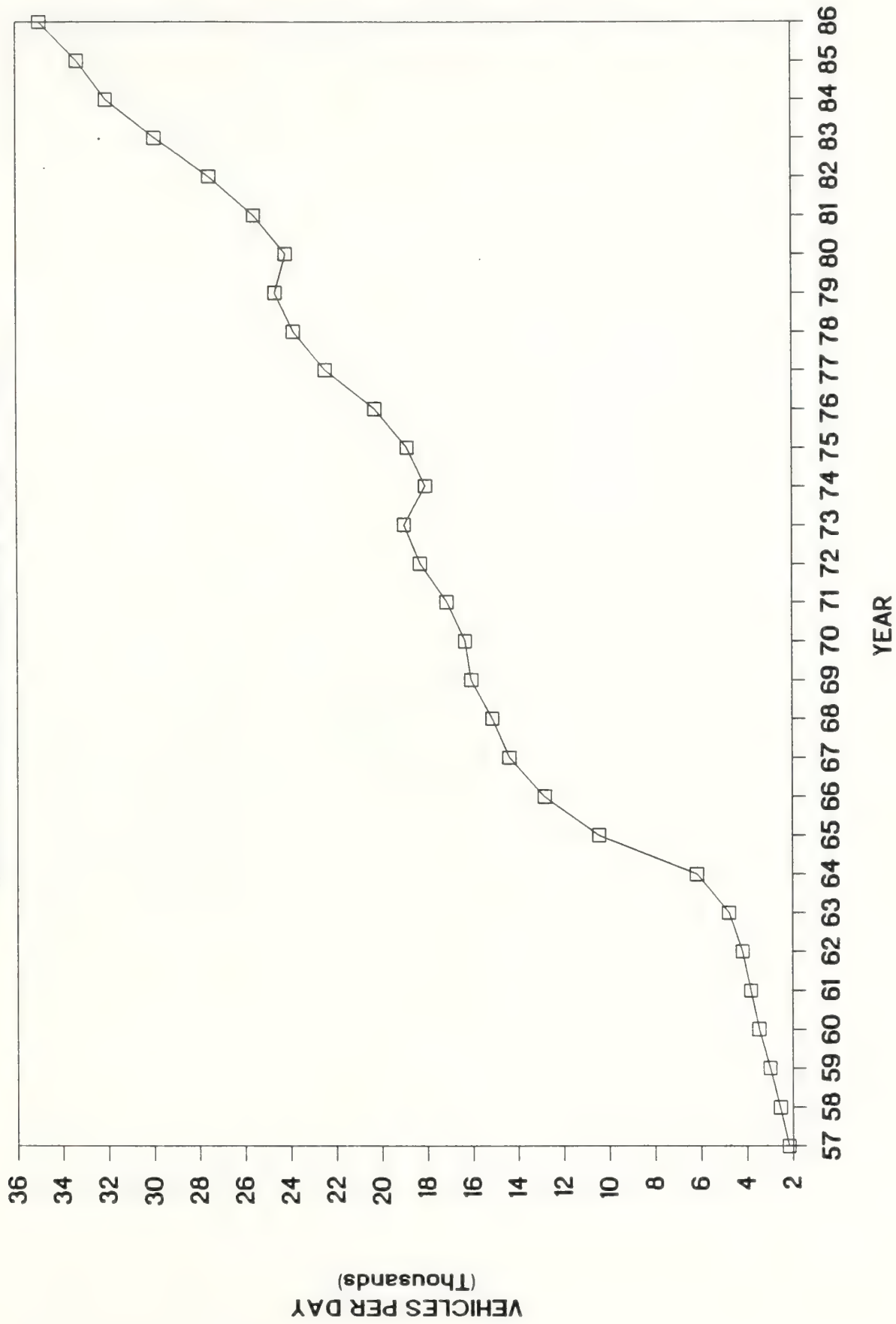
AVERAGE DAILY TRAFFIC (ADT)

MASSACHUSETTS TURNPIKE INTERCHANGE 14



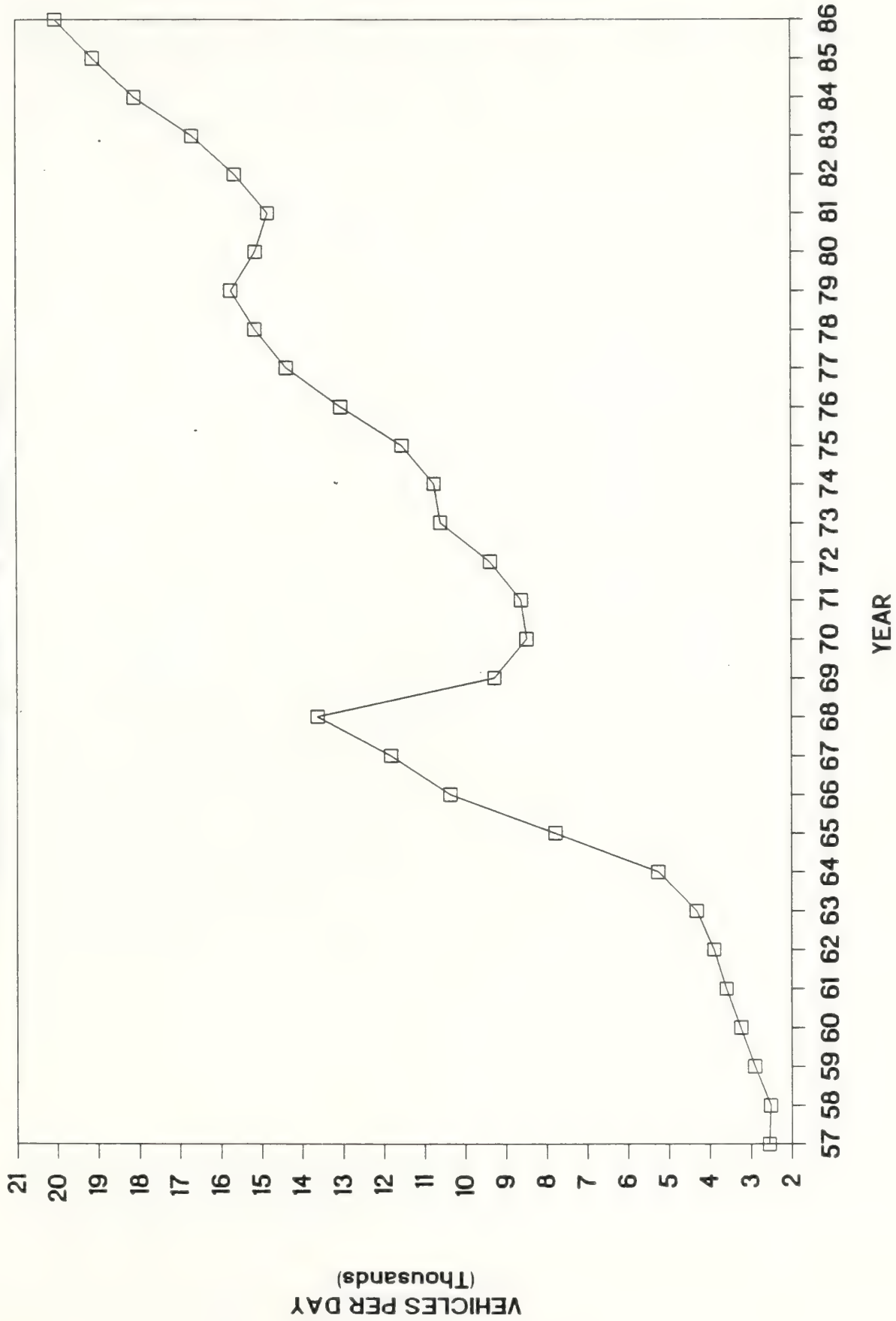
AVERAGE DAILY TRAFFIC (ADT)

MASSACHUSETTS TURNPIKE INTERCHANGE 13



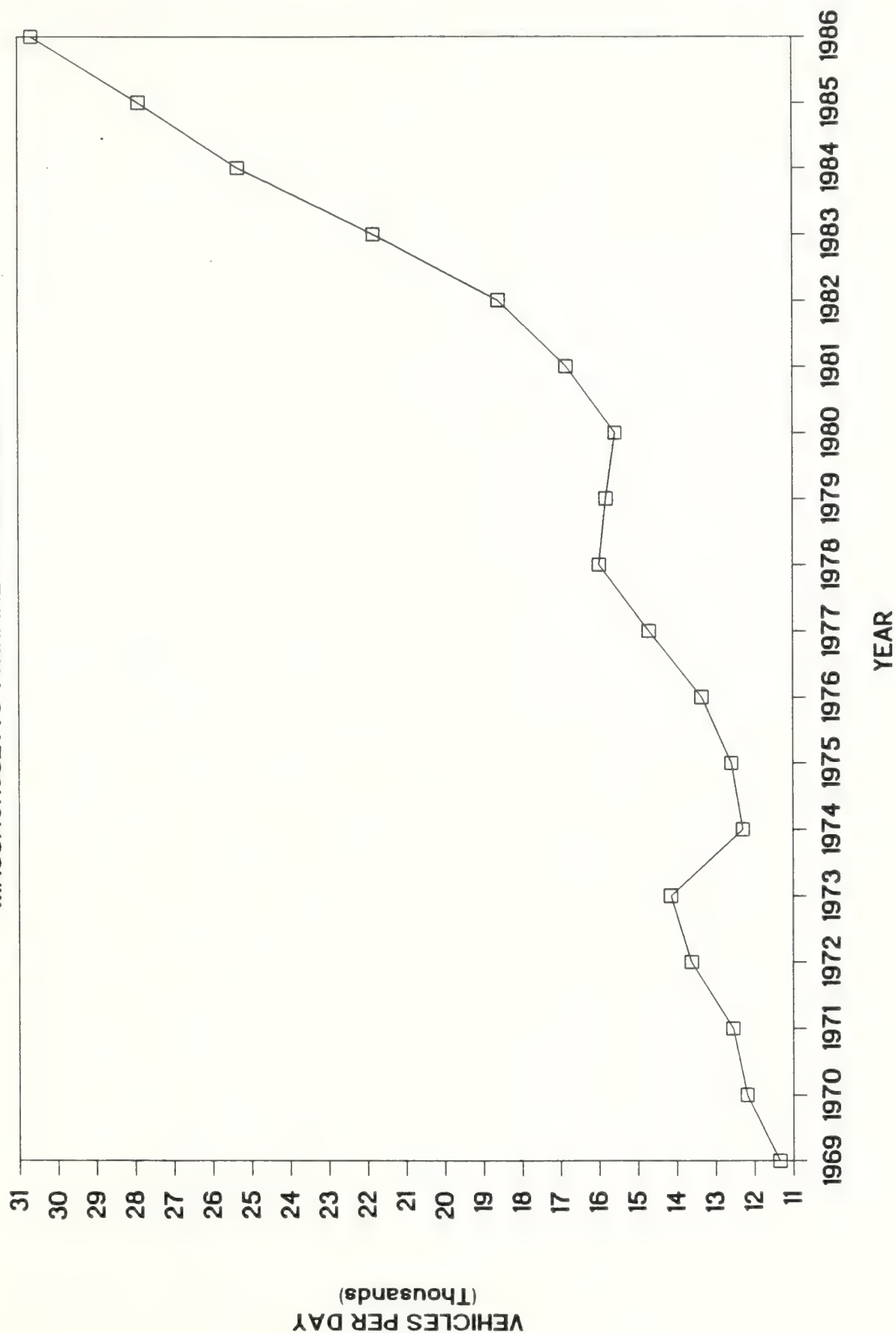
AVERAGE DAILY TRAFFIC (ADT)

MASSACHUSETTS TURNPIKE INTERCHANGE 12



AVERAGE DAILY TRAFFIC (ADT)

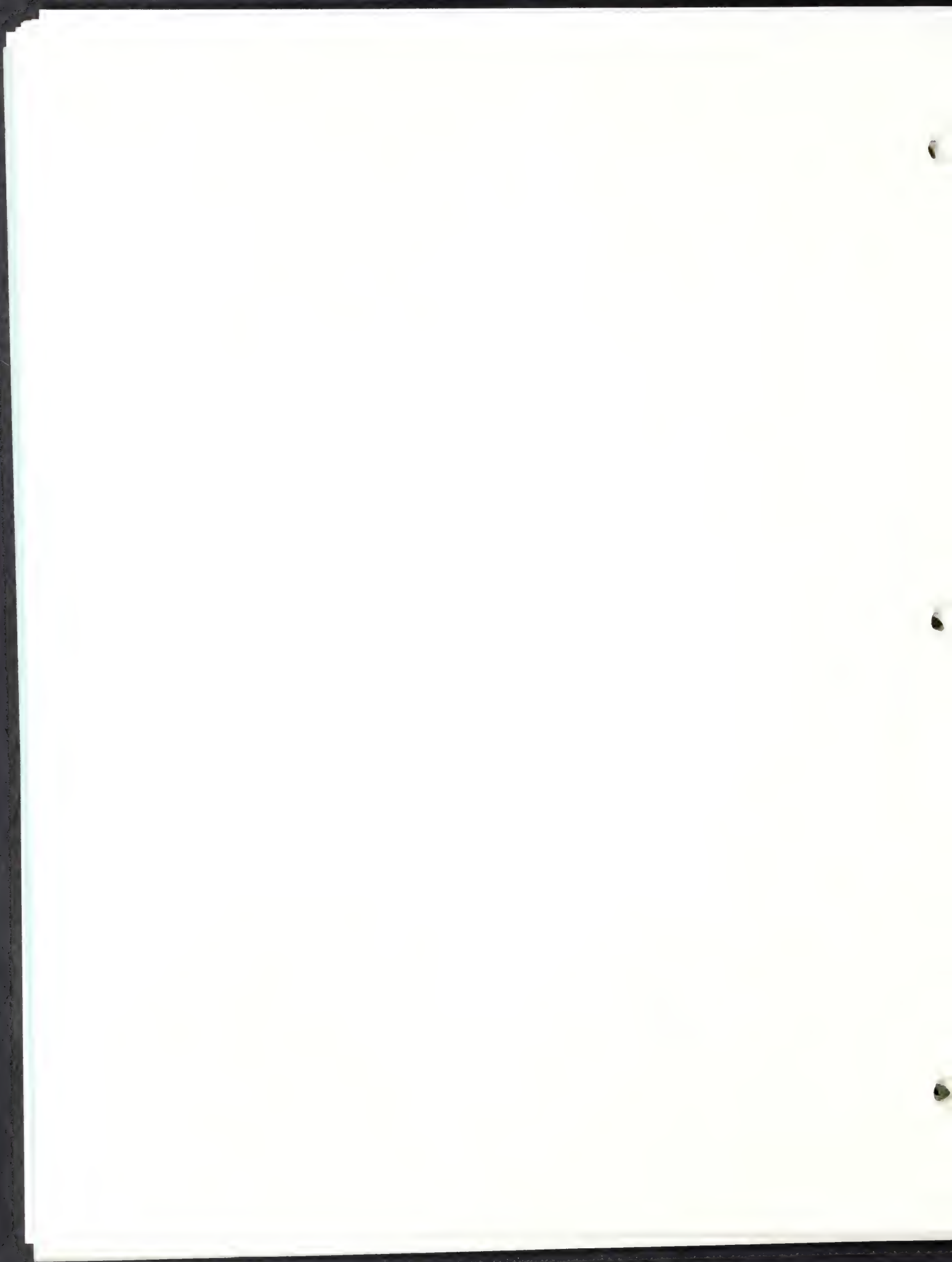
MASSACHUSETTS TURNPIKE INTERCHANGE 11A



MASSACHUSETTS TURNPIKE
AVERAGE WEEKDAY DAILY TRAFFIC (AWDT)

1987

<u>LOCATION</u>	<u>AWDT (TWO-WAY)</u>
11A TO 12	63,800
12 TO 13	78,600
13 TO 14	101,400
INTERCHANGE 15 (Barrier Only)	51,000
INTERCHANGE 14	50,400
INTERCHANGE 13	41,900
INTERCHANGE 12	24,400
INTERCHANGE 11A	36,800



MASSACHUSETTS TURNPIKE
EXISTING TRAVEL DESIRES

7:00 A.M. TO 10:00 A.M.

1987

EXIT ENTER ↓	→	15	14	13	12	11A	11-1	TOTAL VOLUME
15	X	X	35%	22%	23%	20%	4,000	
14	X	X	31%	23%	24%	22%	5,300	
13	54%	33%	X	1%	6%	6%	4,960	
12	41%	45%	5%	X	2%	7%	3,360	
11A	25%	33%	20%	5%	X	17%	5,600	
11-1	9%	11%	3%	3%	8%	X	17,230	
TOTAL VOLUME	7,000	7,000	4,870	3,010	3,910	14,730	X	

MASSACHUSETTS TURNPIKE
EXISTING TRAVEL DESIRES

4:00 P.M. TO 7:00 P.M.

1987

EXIT → ENTER ↓	15	14	13	12	11A	11-1	TOTAL VOLUME
15	X	X	36%	20%	18%	26%	6,900
14	X	X	25%	23%	22%	30%	7,150
13	30%	32%	X	5%	20%	13%	4,650
12	33%	41%	5%	X	4%	17%	2,700
11A	24%	26%	9%	3%	X	38%	3,470
11-1	6%	8%	2%	2%	6%	X	16,350
TOTAL VOLUME	4,200	4,750	5,000	3,650	4,850	18,700	X

MASSACHUSETTS TURNPIKE
EXISTING TRAVEL DESIRES
AVERAGE DAILY TRAFFIC
1987

EXIT → ENTER ↓	15	14	13	12	11A	11-1	TOTAL VOLUME
15	X	X	36%	18%	16%	30%	25,030
14	X	X	29%	19%	18%	34%	25,690
13	43%	34%	X	3%	10%	10%	20,640
12	38%	38%	5%	X	4%	15%	11,760
11A	25%	26%	12%	4%	X	33%	18,865
11-1	9%	9%	2%	2%	8%	X	90,535
TOTAL VOLUME	26,000	24,680	21,270	12,645	17,900	90,000	X



Illustration 3-5. Level-of-service A.



Illustration 3-8. Level-of-service D.

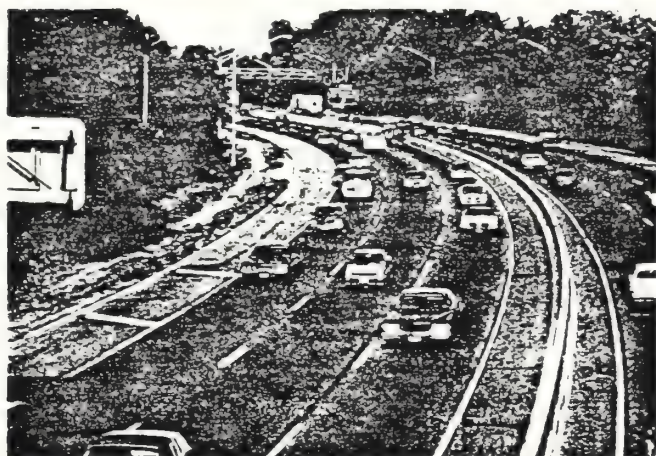


Illustration 3-6. Level-of-service B.

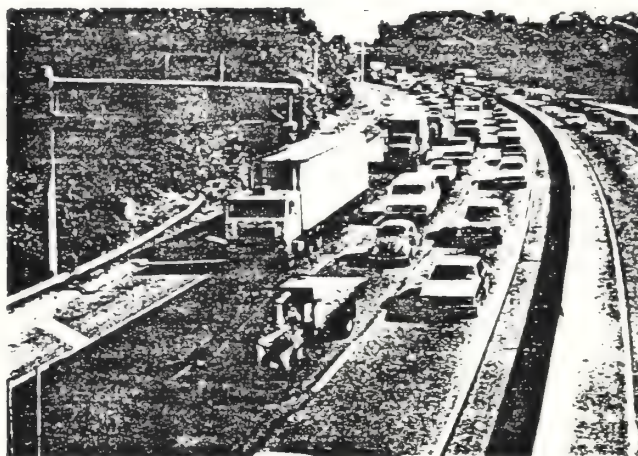


Illustration 3-9. Level-of-service E.



Illustration 3-7. Level-of-service C.



Illustration 3-10. Level-of-service F.

LEVELS OF SERVICE FOR BASIC FREEWAY SECTIONS

LOS	DENSITY (PC/MI/LN)	70 MPH DESIGN SPEED			MSF ^a (PCPHPL)
		SPEED ^b (MPH)	v/c		
A	≤ 12	≥ 60	0.35		700
B	≤ 20	≥ 57	0.54		1,100
C	≤ 30	≥ 54	0.77		1,550
D	≤ 42	≥ 46	0.93		1,850
E	≤ 67	≥ 30	1.00		2,000
F	> 67	< 30	^c		^c

^a Maximum service flow rate per lane under ideal conditions.

^b Average travel speed.

^c Highly variable, unstable.

LEVELS OF SERVICE FOR BASIC FREEWAY SECTIONS

LOS	DENSITY (PC/MI/LN)	70 MPH DESIGN SPEED			MSF ^a (PCPHPL)
		SPEED ^b (MPH)	v/c		
A	≤ 12	≥ 60	0.35		700
B	≤ 20	≥ 57	0.54		1,100
C	≤ 30	≥ 54	0.77		1,550
D	≤ 42	≥ 46	0.93		1,850
E	≤ 67	≥ 30	1.00		2,000
F	> 67	< 30	c		c

^a Maximum service flow rate per lane under ideal conditions.

^b Average travel speed.

^c Highly variable, unstable.

MASSACHUSETTS TURNPIKE

1987

Existing Operating Characteristics Mainline Highway Segments (EB - AM)

LOCATION	Peak Hour Volume Peak Direction (vph)	Service Flow Rate (vph)	Maximum Service Flow Rate Or Capacity (vph)	V/C Ratio	Speed (mph)	Density (pc/mi/ln)	LOS
I1A To I2	3920	4404	5820	.76	60 ⁺	26	C
I2 To I3	4840	5438	5820	.93	60 ⁺	33	D
I3 To I4	5880	6607	5820	1.14	55	44	E

MASSACHUSETTS TURNPIKE

1987

Existing Operating Characteristics Turnpike Ramps

13

LOCATION	RAMP PROPER					RAMP JUNCTION		TOLL PLAZA		
	Number Of Lanes	Peak Hour Ramp Volume (vph)	Service Flow Rate (pcph)	Maximum Service Flow Rate Or Capacity (pcph)	Ramp LOS	Merge Or Diverge Volume (pcph)	Merge Or Diverge LOS	Peak Hour Volume $\frac{\text{Exit}}{\text{Entry}}$	Toll Capacity (No. Of Toll Lanes)	Toll Plazc V/C Ratio
I/C #12 EB Off EB On WB Off WB On	1	360 (AM)	417	1600	C	1386	C	1500	2000 (5)	0.75
	1	1280 (AM)	1483	1600	D	2355	F			
	2	1330 (PM)	1541	2610	D	2128	F	1100	1200 (2)	0.92
	1	230 (PM)	266	1450	D	549	A			
I/C #13 EB Off EB On WB Off WB On	1	770 (AM)	892	1600	C	1866	E	2050	2000 (5)	1.03
	1	1810 (AM)	2097	1600	F	2809	F			
	2	1750 (PM)	2027	2610	D	2666	F	1910	1800 (3)	1.06
	1	720 (PM)	834	1450	D	1534	D			
I/C #14 EB Off WB On	2	2940 (AM)	3405	3040	F	2093	F	2940	3200 (8)	0.92
	2	2930 (PM)	3394	3400	E	4572	F	2230	2400 (4)	0.93



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG) Meeting #4
May 6, 1987

AGENDA

3:30 INTRODUCTION

Barry Lawson, President, Barry Lawson Associates

- o Review of agenda
- o Community Relations Plan: distribution/discussion
- o Review of Meeting Notes - April 8th meeting

4:00 STATUS REPORT

Traffic- *Joseph Grilli, HNTB*

Water Supply - *Mary Beth Martin, HNTB*

Water Quality - " " " "

Wetlands - " " " "

Archaeology - " " " "

Air Quality - *Jeffrey Tarde, Tech Environmental*

4:15 Noise Measurement Program - *Christopher Menge, Harris Miller Miller and Hanson*

4:45 TURNPIKE SAFETY

Capt. Robert A. Morse, Commander, Troop E, Massachusetts State Police

- o Enforcement of truck idling law
- o Turnpike speed limit enforcement
- o Hazardous materials spills - policy and prevention

5:00 OTHER BUSINESS

- o LLG field trip to project sites
- o Date for next meeting: **June 3, 1987 (proposed)**

5:15 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #4

Date: May 6, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Rick Taintor
Town of Natick: George Wallace; Bill Costello
Town of Southborough: Janice C. Conlin; Charles E. Gaffney
Town of Wayland: Theresa DiCicco; Marcy Crowley
Town of Westborough: Dexter Blois; John Walden; Rich Citro
Town of Weston: Richard Albrecht

Other Officials and Members of the Public

Don Cowles, Westborough Board of selectmen
Kate Gomes, Westborough
Cpl. Ronald Gregoire, Mass. State Police
David Hero, Dover Instrument Corp., Westborough
John R. Hero, Dover Instrument Corp., Westborough
Capt. Robert Morse, Mass. State Police
Donna Scaglione, Weston Tab

Massachusetts Turnpike Authority

Mel C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Edward M. King, Director of Public Relations

Consultants

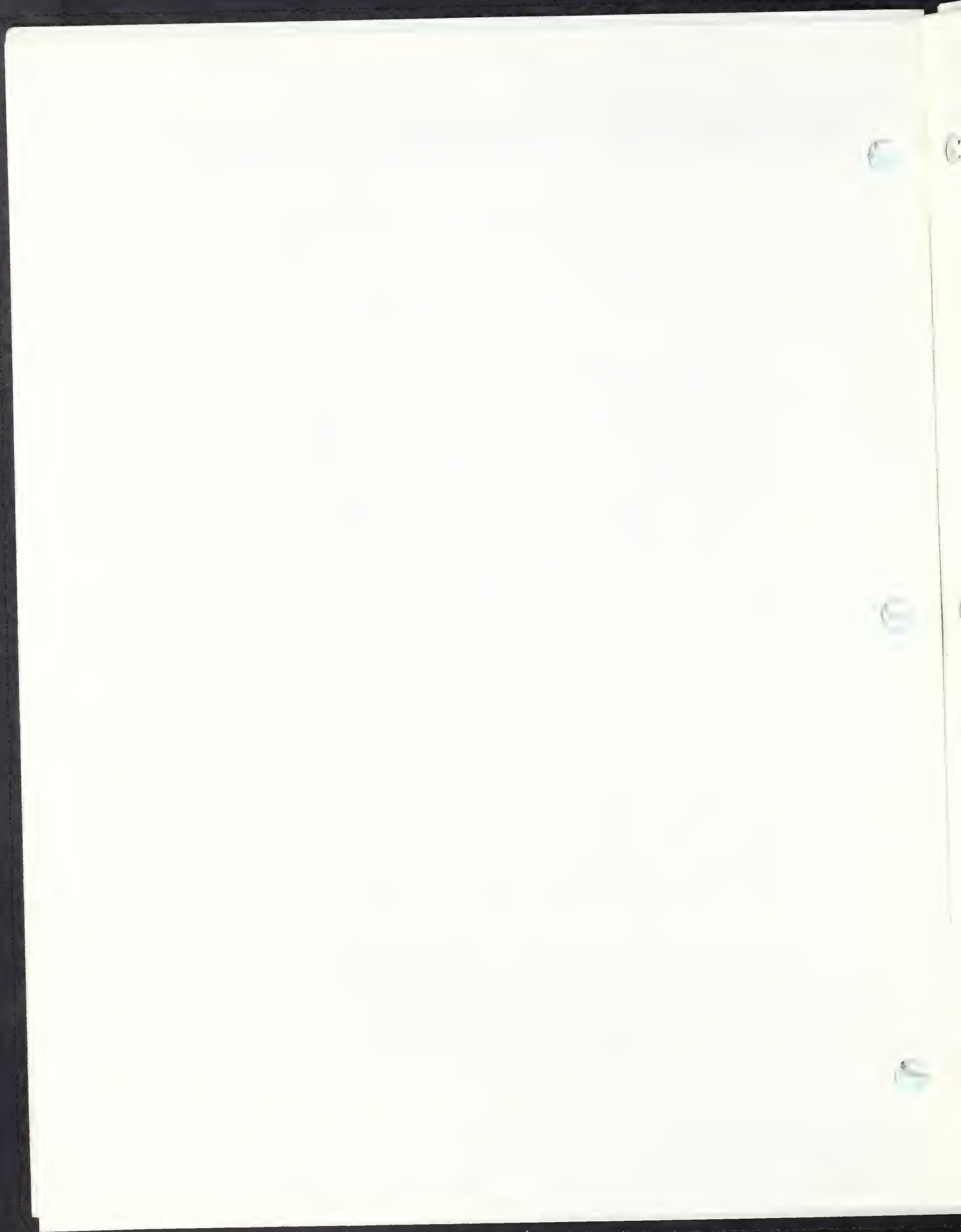
Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff (HNTB)
Gary Walsh, Massachusetts Turnpike Authority Project Manager, HNTB
Joseph Grilli, EIR Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Christopher Menge, Senior Consultant, Harris Miller Miller & Hanson
Doug Barrett, Harris Miller Miller & Hanson
David Wootton, Harris Miller Miller & Hanson
Jeffrey Tarde, Environmental Scientist, Tech Environmental
Barry Lawson, President, Barry Lawson Associates
Ann E. Jacobson, Community Relations Manager, Barry Lawson Associates

Barry Lawson, of Barry Lawson Associates, moderated the meeting. He reviewed the agenda and noted that both the Community Relations Plan and the Final Technical Work Plan will be ready shortly and will be sent to LLG members prior to the next meeting. He then asked for and received approval of the notes of the meeting held April 8, 1987. Mr. Lawson introduced and welcomed the newest member of the LLG, Marcy Crowley, Selectman from Wayland.

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
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STATUS REPORT

Traffic - Joseph Grilli, HNTB

Mr. Grilli said that HNTB has completed the intersection turning movement and vehicle classification counts at twenty-two locations. Classification studies of Service Area 8E were due to be completed that day. He added that the continuous 48-hour machine counts had been completed and data was being processed. Speed and delay studies were due to be completed the following week. He said that CTPS had developed the traffic demand forecasting model, coded highway links with information on capacity and distance, and will shortly calibrate this model. MAPC is currently developing socio-economic data, has completed calculations of existing conditions and will complete future year projections next week. He concluded by saying that a more lengthy discussion on the results of the traffic studies would be scheduled for the next LLG meeting.

Comments and Discussion Points

- o Marcy Crowley asked how vehicle types are classified and Mr. Grilli explained that three classifications are used: autos (including motorcycles); medium trucks (six wheels); and heavy trucks (more than six wheels).
- o Theresa DiCicco said that a resident of the Hammond Road area of Natick had counted 270 trucks between 5:00 and 6:00 a.m. Mr. Grilli was interested in comparing this figure with similar counts taken by HNTB.
- o George Wallace advised Mr. Grilli that MWRA had recently done a traffic count on Route 135 as part of an analysis of wastewater management options. He said that Anderson Nichols was the consultant.

Water Supply - Mary Beth Martin

Ms. Martin said that Jason M. Cortell and Associates has received replies from about one-third of the private well owners to whom questionnaires had been sent. The majority of these were located in Weston. Cortell will soon be developing recommendations for which wells should be tested. They will then meet with DEQE regarding the sampling program. She added that Cortell is now collecting data necessary to perform the groundwater net flow analysis.

Water Quality - Mary Beth Martin

Ms. Martin said that the bi-monthly stream sampling program is continuing. She noted that the stream near the Weston High School has been added to the sampling program.

Wetlands - Mary Beth Martin

Wetlands surveying is continuing, according to Ms. Martin. She added that HNTB is attempting to contact Paul Martin Brown (the botanist who had reported on the presence of rare or endangered plants) to arrange for him to accompany ecologists from Cortell on a field visit to identify locations where he had observed such species. She said that the Authority is attempting to obtain permission from property owners to do additional wetlands surveying at the proposed barrier toll plaza site on the Westborough/Southborough town line.

Archaeological - Mary Beth Martin

This survey is now scheduled for four to six weeks in the future. Permission is now being sought from property owners for access to property.

Comments and Discussion Points

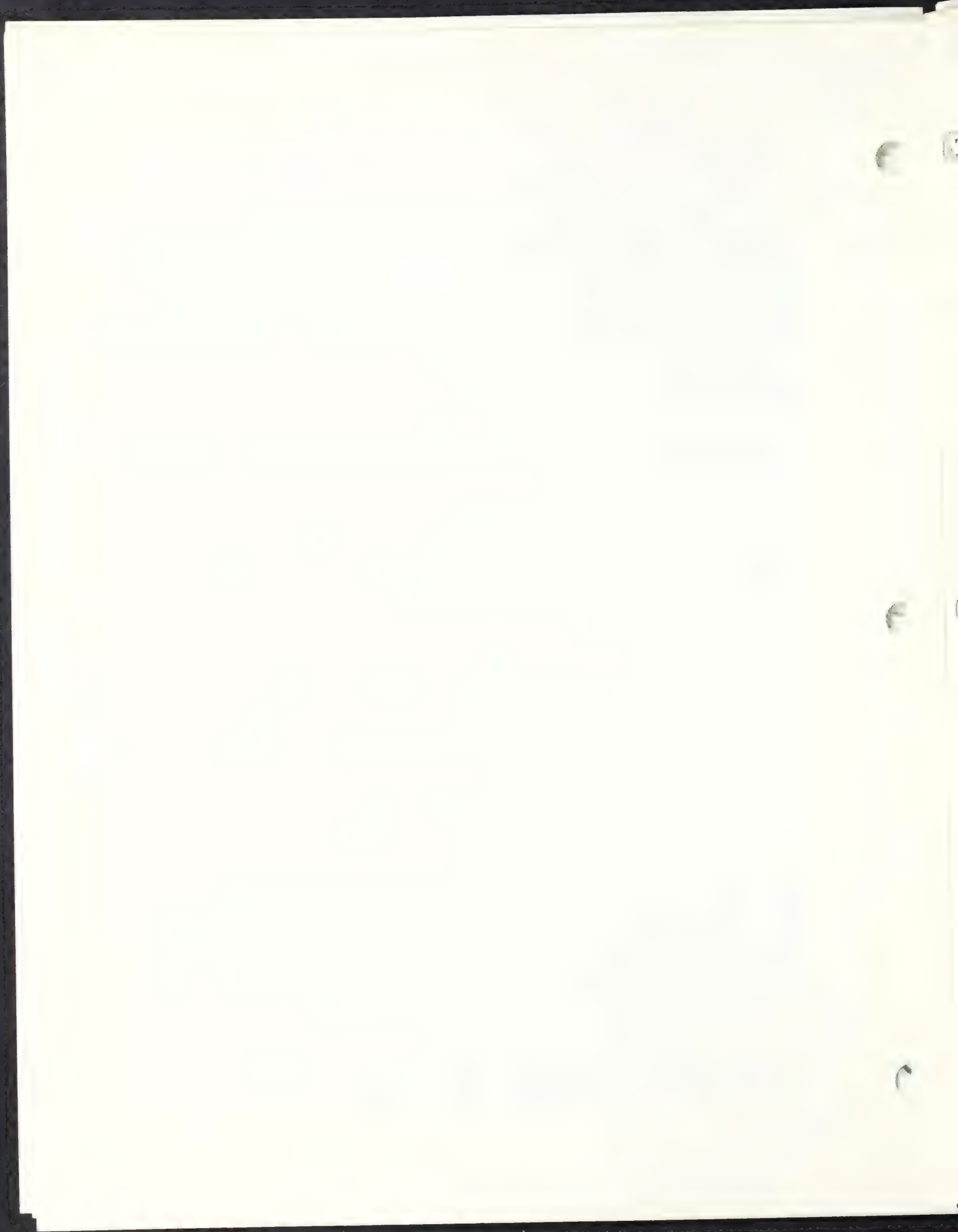
o Dexter Blois asked which side of the Turnpike is under consideration for the driveway to the barrier toll plaza. Mr. Grilli said that both sides are under consideration and that a major criterion for selection would be effects on wetlands. He confirmed that HNTB's analysis and recommendations will be available at the next LLG meeting.

o Mr. Hero questioned whether residents would have input to the decision on the driveway location before it is made. Mr. Grilli explained that his firm would be gathering the necessary information and that public input would be welcome at the LLG presentation on the findings. Mr. Lawson encouraged abutters to provide the study team with any information they feel is relevant.

o John Walden asked whether DEQE's Regional or Central office is the contact for water sampling issues. Mr. Grilli said that both are being consulted. [A portion of the project is also within the jurisdiction of the Northeast Region of DEQE.]

o Theresa DiCicco asked how Snake Brook fits into the study and what body of water is considered Snake Brook. George Wallace said that the stream is basically on the south side of Route 30 as it crosses under Route 27. He also suggested that the Conservation Commission be contacted for information. Ms. Martin added that Snake Brook was included in the stream sampling program. [Bi-monthly samples are being taken on the north side of the Turnpike near Oak Knoll Road.]

o Mr. Walden and Mr. Blois asked how the locations of the wells in Westborough had been determined. Ms. Martin explained that the information had been obtained from the town. Mr. Blois asked to see a list of wells to ensure that all property owners had been



contacted, and he and Mr. Walden offered to contact individuals who had not responded to the questionnaires.

o Mr. Gaffney suggested that the proposed field trip should be held before the next meeting so that he can be involved in the preliminary thinking concerning the driveway to the toll plaza.

o Rich Citro said he had spoken to loggers on the "Chase" property who use a gravel road that intersects Flanders Road about one-quarter mile east of the Turnpike. The loggers indicated that the area was a good site for the access driveway and Mr. Citro asked if this was being considered. Mr. Grilli indicated that it is preferable to keep the driveway adjacent to the Turnpike, and it is unlikely that the driveway will be located in the vicinity mentioned.

o Dexter Blois added that the dotted line shown on the USGS map is the dirt road in question, which comes out at an area of residential property. He indicated that the comments of those present seem to favor locating the driveway on the south side of the Turnpike.

Air Quality - Jeffrey Tarde, Tech Environmental, Inc.

Mr. Tarde said that his firm had completed site surveys on intersections for modeling locations and had collected data including signal timing and land use. He had received a list of receptor sites from Weston consultant James Fay and the study will probably include all of the suggested sites.

Comments and Discussion Points

o Bill Costello asked what receptors would be used for Service Area 8E, and Mr. Tarde replied that houses located adjacent to the site would be modeled under worst-case conditions.

o Several LLG members commented that modeling in the vicinity of the Service Area should assume continuously running trucks rather than the legal five minute idling time. Mr. Tarde noted that assuming enforcement of relevant laws is a standard guideline followed in air modelling studies. This assumption can be changed.

o Theresa DiCicco asked whether the study will include measurements of the particulates which are deposited on window sills in the area. Mr. Tarde responded that analysis of Total Suspended Particulates is not included in this project. [TSP analysis was not requested by the MEPA Unit of EOEA. Methods of controlling dust during construction will be addressed in the EIR].

o George Wallace said modeling is hypothetical, and actual air sampling should be conducted. Natick would demand sampling in extremely sensitive areas, and would insist that modeling of conditions in the vicinity of the Service Area be based upon continuous running of trucks. He added that particulates should be

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6

examined in areas in close proximity to wells. Mr. Tarde replied that air sampling is not planned for this project (see reasons below). He also noted that studies have shown that dispersion models are conservative, and they will be used in conjunction with worst-case conditions for wind speed, direction and stability in this project. Such modelling of worst case conditions was approved by DEQE.

[Excerpt from TECHNICAL WORK PLAN, SUMMARY OF PUBLIC COMMENTS AND RESPONSES, April 1987:

(2) Current measurements of carbon monoxide ambient concentrations should be presented for locations near the Turnpike.
[MG/JF]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEa during the ENF review period and was not included in the EIR Scope. We have consulted DEQE and they have agreed that the measuring of ambient carbon monoxide (CO) levels is not necessary for this project. Maximum CO levels will be predicted using a conservative modeling protocol that has been approved by the DEQE. Specifically, the approach assumed simultaneous occurrences of the following:

- peak 1- and 8- hour traffic;
- worst case emission rates as predicted by the EPA MOBILE3 model;
- worst case dispersion conditions as predicted by the EPA CALQ3 model;
- complete persistence of the worst case wind speed, wind direction, and atmospheric stability conditions over an 8-hour period (i.e., no credit taken for changes in meteorology conditions);
- conservative background levels].

o In response to a question about whether emission controls vary from vehicle to vehicle, Mr. Tarde said they do. Emission rates from the various types of trucks are averaged together and a typical rate is used in the model.

Noise Measurement Program - Christopher Menge, Harris Miller
Miller & Hanson

Mr. Menge said that his firm had conducted the bulk of its noise measurement program. He and his staff had taken measurements at 3 long term and 26 short term sites. Sites in Southborough, Westborough and at Service Area 8E have not yet been measured.

Mr. Menge showed the group the results of the long-term measurement program conducted to date in Wayland, Natick and Weston. Overhead slides were used to portray the data which indicated that hourly average noise levels range from approximately 66-74 dBA, Leq over a 24-hour period at the measurement locations. This is typical of many of the homes in the study area closest to the Turnpike. In

response to a question on what noise level indicates a need for noise barriers, Mr. Menge said that the Federal Highway Administration uses 67 dBA during the noisiest hour of the day as the criterion for making noise abatement funds available if barriers are determined to be feasible (from an engineering perspective) and cost-effective under state policies and procedures. He added that his firm would evaluate noise barriers at locations where future noise levels are predicted to exceed 67 dBA, Leq.

Comments and Discussion Points

o Theresa DiCicco noted that the community had hired Cavanaugh-Tocci to conduct sound studies in 1983, which indicated that noise at a site on Haven Lane in Wayland was 74 dBA; such noise now measures 77 dBA. Mr. Menge said that differences could be attributable to slight differences in atmospheric conditions at the time of measurement, or to the fact that the latest measurements were taken at a location closer to the Turnpike. However, he indicated that it is possible that traffic increases have increased noise in this area.

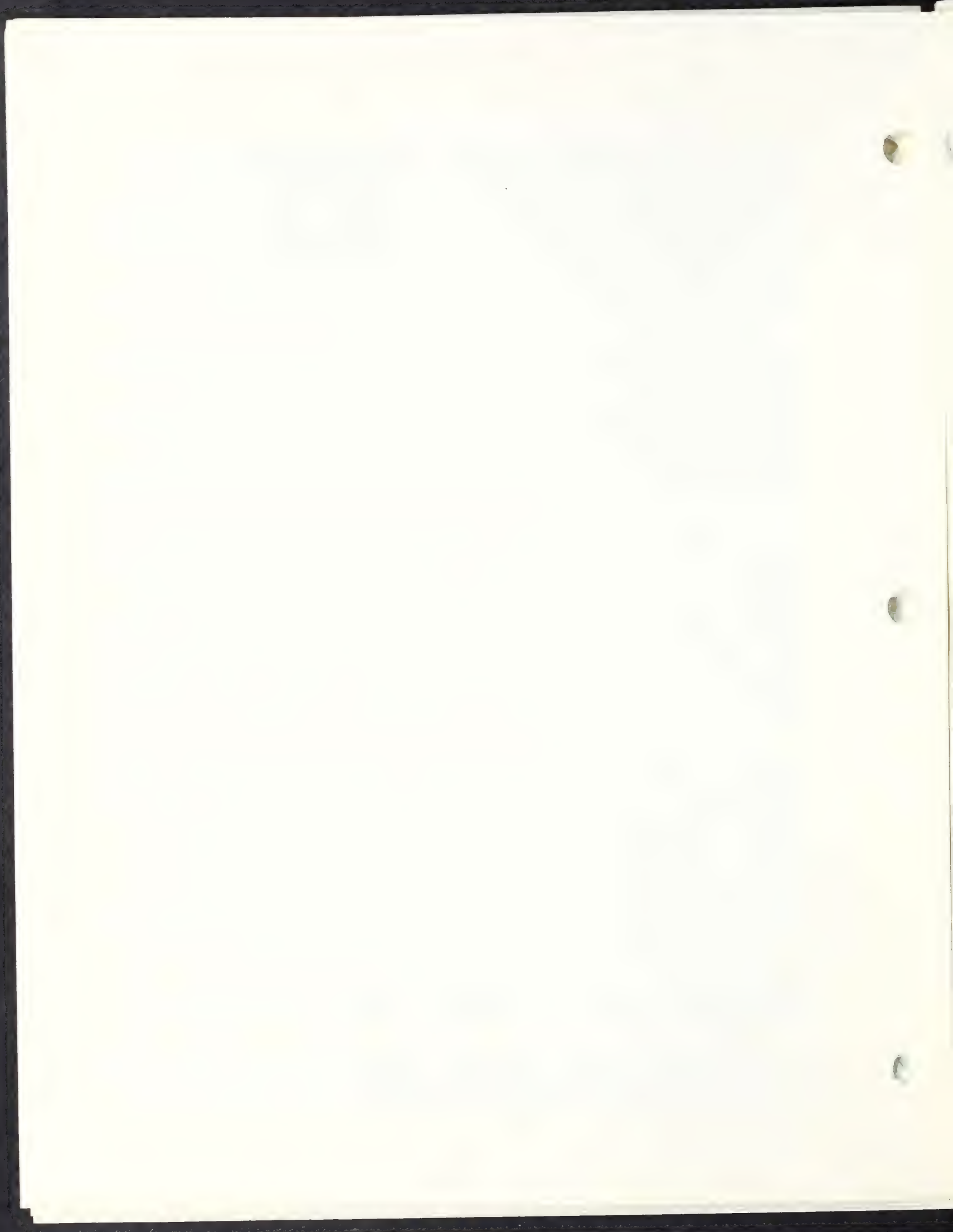
o Mr. Wallace asked whether the traffic at this time of year is typical. Mr. Grilli replied that traffic is approximately average at this time of year. Mr. Menge added that it takes a fairly major change in traffic volume to affect noise levels. He said that he relies on traffic engineers to supply typical "noisiest-hour" traffic data, but will use traffic counts taken at the time of the noise measurements to calibrate the noise model. He said that his firm will use the model to predict worst-case noise and day/night variations for three situations: the existing conditions; the 1995 "no-build" alternative (if the improvements are not made); and the 1995 "build" alternative (if the improvements are made).

o Ms. DiCicco said that studies have shown that exposure to noise of over 80 dBA can cause hearing loss. A person's health can also be damaged by the need to keep one's voice continuously at a volume loud enough to be heard. She said that studies have shown that blood pressure increases and that other physiological damage is caused. Mr. Menge agreed that studies have shown that continuous exposure to noise levels of 85 dBA for 16 hours per day can cause hearing damage in some people. Noting that the noise levels discussed were all outdoor measurements, he said that people living near the Turnpike would not be subjected to such dangerous noise levels because the condition described in the studies cited does not occur in the EIR study area.

TURNPIKE SAFETY

Capt. Robert A. Morse, Commander, Troop E, Massachusetts State Police

Captain Morse introduced himself and Corporal Ron Gregoire, an officer assigned to the special unit which concentrates on truck traffic. He pointed out that Troop E is an arm of the State Police assigned to patrol the Turnpike exclusively. He has a staff of 60



troopers who patrol the 135 mile corridor. He also mentioned that the Turnpike has the lowest fatality rate in Massachusetts and is the safest highway in the state, and the second safest in the nation. He then encouraged LLG members to ask questions on the three listed agenda items: 1) enforcement of the truck idling law; 2) Turnpike speed limit enforcement; and 3) hazardous materials spills - policy and prevention.

Comments and Discussion Points

o Mr. Wallace asked Captain Morse to explain the truck idling law. Captain Morse explained that the law limits idling to five minutes, excluding refrigeration units because of the perishable nature of the contents. He emphasized that Service Area 8E is not a truck stop, but rather a facility made available by the Turnpike Authority for motorists to stop briefly to use the facilities. He added that he has noticed a difference in truck drivers complying with the idling law since de-regulation of the trucking industry. The major companies are cooperative but the others are reluctant because it is less expensive to leave the units running and because they often have problems restarting their engines, particularly in the winter. Captain Morse described their program of concentrating efforts on the service areas for enforcement of the idling law. He mentioned special teams which regularly patrol the areas and issue citations to offending truck drivers.

o Mr. Costello questioned the wisdom of expanding the truck parking area and making it more convenient for truckers to park there, when their final destination is likely to be Boston. According to Mr. Costello, drivers would drive to a designated truck depot if the idling law were enforced in such a way as to discourage use of Service Area 8E as a longer-term rest area. Captain Morse said trucks are one of the major concerns of his troop and the truck unit tries to address the problems they cause. He noted that 3000 truck citations have been issued since September, and that his troop leads other troops in issuing truck citations. However, they cannot be at each service area 24 hours a day with his available manpower.

o Ms. DiCicco asked why the Service Area is not closed altogether. Captain Morse called it a matter of judgment as to whether sleepy drivers are more dangerous on the road than trucks idling at the Service Area.

o Mr. Costello asked Captain Morse (for the purpose of the air quality model) his opinion of what percentage of the time the idling law is adhered to. Captain Morse replied that when the truck enforcement team is concentrating on those areas, they are 100 percent effective. He also noted that an additional member would be added to the team on June 1, 1987.

o Ron Gregoire reviewed the State Police's role in the clean-up of hazardous waste spills on the Turnpike. Corporal Gregoire listed the rigorous training he has undergone to prepare him for this task. He and Captain Morse reviewed the policies and procedures which are

utilized and showed the group the emergency response plan, which contains the rules and regulations that are used.

o Mr. Citro made reference to the removal of toll booths from the Connecticut Turnpike and asked whether a barrier toll plaza is inherently dangerous. Captain Morse indicated that such a plaza is not a hazard if the area is well lit, is located with appropriate sight distances, and is well maintained. He said that he cannot recall a major incident at any Mass Turnpike toll plaza in the twenty years he has been with the State Police. Mr. Grilli added that his firm is planning to conduct accident research to determine the percentage of accidents that occur on the road versus those that occur at toll booths.

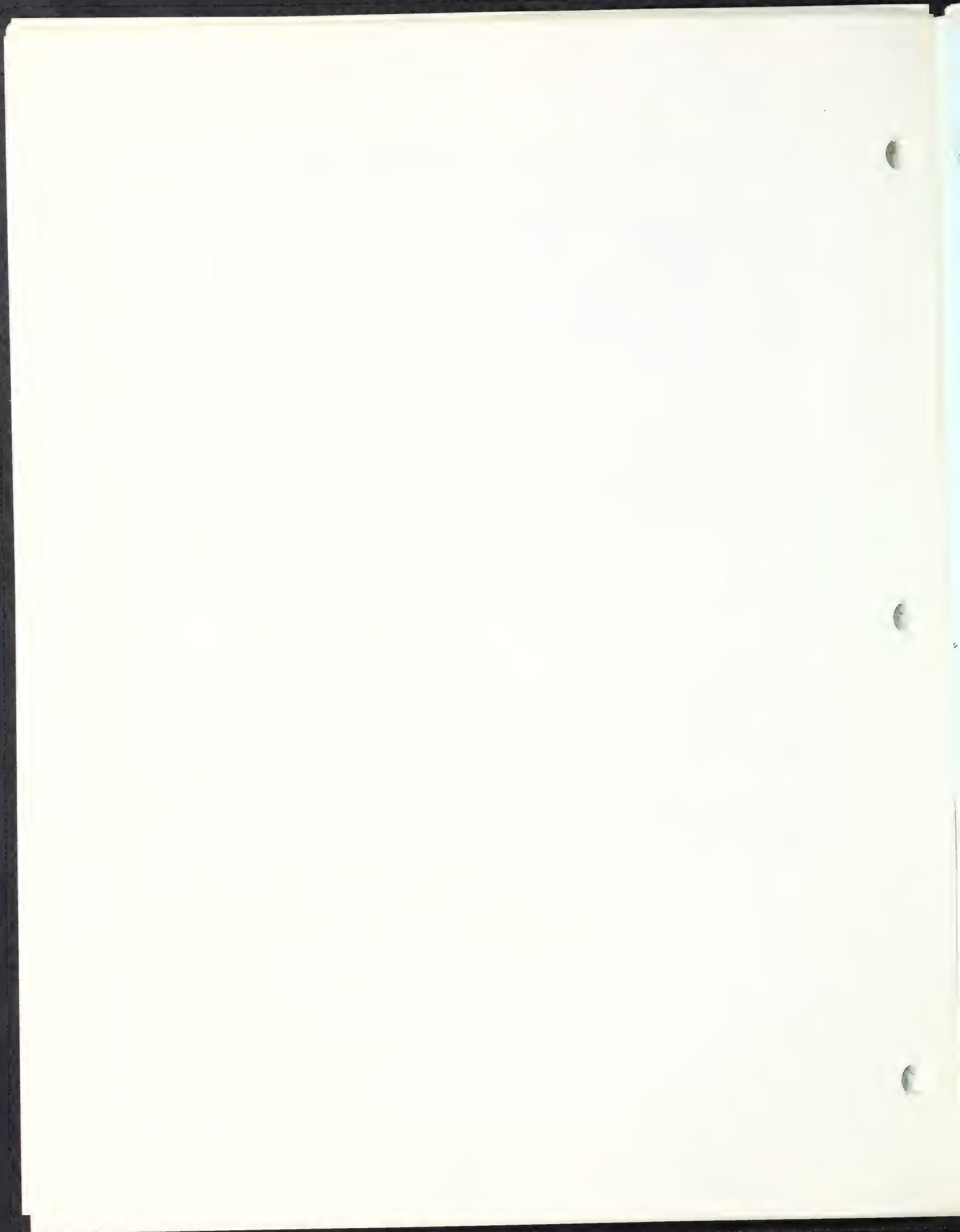
o Mr. Gaffney asked Captain Morse to give his personal opinion on the need to expand the Turnpike. Captain Morse said he feels the Turnpike should be expanded to reduce backups and lane weaving and maneuvering. In his opinion the Turnpike's excellent safety record can be maintained after the widening by adding more manpower. He said that the stretch of road from Route 128 to Boston needs a breakdown lane [four are currently being designed]; also, mass transit from the Route 128 area would be desirable.

o Barry Lawson thanked LLG member Bill Costello for suggesting this agenda topic and encouraged LLG members to suggest other topics of interest.

OTHER BUSINESS

o **Field Trip:** The group discussed a field trip to the proposed sites for activities under the Turnpike Improvement Program. Members agreed that the field trip would be held on **June 3, 1987** and would begin at **12:30 p.m. at the Weston Engineering Headquarters**. They were asked to notify Barry Lawson Associates by May 13 of their interest in attending.

o **Next Meeting:** The date of the next meeting was set for **Wednesday, June 17, 1987 at 3:30 p.m.** at the Engineering Headquarters. [The date was subsequently changed to **July 8, 1987.**]



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG) Meeting #3
April 8, 1987

AGENDA

- 3:30 INTRODUCTION
Barry Lawson, President, Barry Lawson Associates
o Review of Meeting Notes - March 4th meeting
- 3:45 TECHNICAL WORK PLAN - SUMMARY OF PUBLIC COMMENTS
AND RESPONSES: Additions to Work Plan
Joseph Grilli, EIR Project Manager
Howard Needles Tammen & Bergendoff (HNTB)
- 4:15 STATUS REPORT: Field Studies
- Traffic
Joseph Grilli, HNTB
- Light
Recreation
Historical/Archaeological
Mary Beth Martin, EIR Coordinator, HNTB
- Water Supply
Carlton Noyes, Vice President
Jason M. Cortell and Associates
- Water Quality
Carlton Noyes, Jason M. Cortell and Associates
- 4:30 PRIVATE WELL SAMPLING PROGRAM
Carlton Noyes, Jason M. Cortell and Associates
- 4:50 BARRIER TOLL PLAZA SITE SCREENING
Joseph Grilli, HNTB
- 5:20 OTHER BUSINESS
Date for next meeting: May 6, 1987 (proposed)
Other business
- 5:30 Adjourn

Technical Consultants
Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213

Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #3

MEETING NOTES

Date: April 8, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Frederick S. Taintor; Fred W. Sergeant
Town of Natick: George Wallace; William P. Costello
Town of Southborough: Janice C. Conlin; Charles E. Gaffney
Town of Wayland: Theresa L. DiCicco
Town of Weston: Jean Thurston; Richard W. Albrecht

Other Officials and Members of the Public

Jane Adams, Worcester Telegram and Gazette
Don Cowles, Selectman, Westborough
Gregg M. Lasky, Middlesex News
Ted Ross, TAB (Framingham)
Ellie Stoddard, Southborough Planning Board

Massachusetts Turnpike Authority

Mel Crain, Chief Engineer

Consultants

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff (HNTB)
Joseph Grilli, EIR Project Manager, HNTB
Gary Walsh, Massachusetts Turnpike Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Carlton Noyes, Vice President, Jason M. Cortell and Associates
Robert Terefenko, Hydrogeologist, Jason M. Cortell and Associates
Jeffrey Tarde, Environmental Scientist, Tech Environmental
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson Associates

Barry Lawson, of Barry Lawson Associates, moderated the meeting. He reviewed the agenda and asked for approval of the notes of the meeting held March 4, 1987. George Wallace noted that he had asked whether groundwater *sampling* rather than *modeling* would be done at Service Area 8E (p. 5). The correction was noted and the notes approved as corrected.

TECHNICAL WORK PLAN - SUMMARY OF PUBLIC COMMENTS AND RESPONSES:

Additions to Work Plan

Joseph Grilli, HNTB

Mr. Grilli thanked the LLG for their valuable comments on the Work Plan, and noted that the Final Work Plan will be issued within two weeks. He listed the major changes, additions and clarifications to the Work Plan which were made as a result of the

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
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Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.



review process. He referred the group to the document entitled "Technical Work Plan, Summary of Public Comments and Responses, April 1987", for a complete list of questions, comments and responses.

Transportation

- o Expand demand forecasting model: use 164-town Eastern Massachusetts model.
- o Add streets/intersections to traffic analysis locations: Oak, Winter, Wellesley Streets (Weston); Route 9/Caldor Road (Framingham); Route 30/Route 9 (Westborough).
- o Usage and availability of public transit will be reviewed.

Air Quality

- o Turnpike Extension to be added to the mesoscale analysis.
- o Considering suggestions on sensitive receptors, and waiting for Weston's consultant's list of sites (received April 22)

Noise

- o Conduct literature review of typical noise levels in residential areas not near major noise sources.
- o Assess adverse effect of wind on effectiveness of noise barriers.
- o Conduct literature review and evaluation of snow plow noise emission.
- o Considering suggestions on sensitive receptors.

Ground/Surface Water

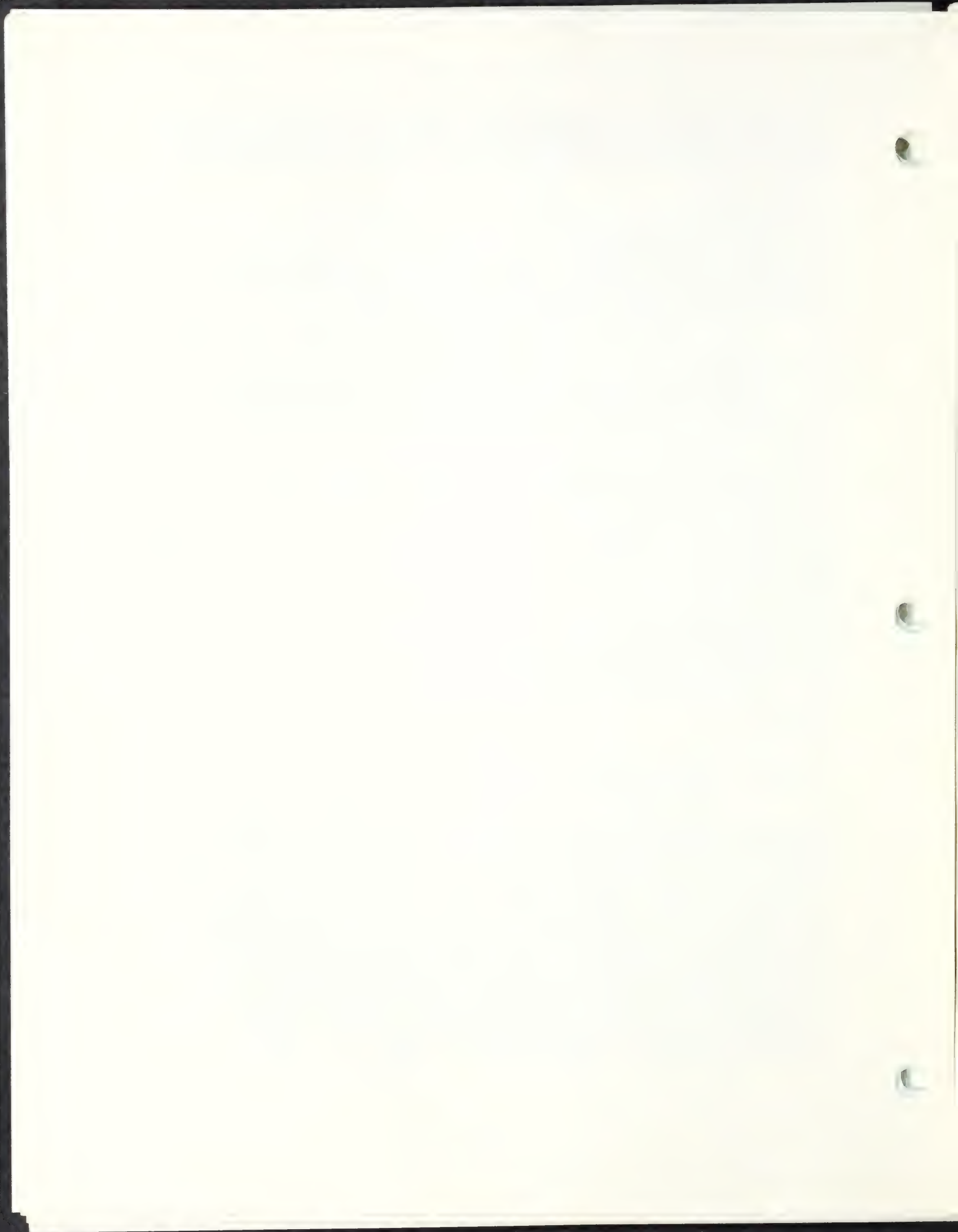
- o Conduct private well testing program
- o Include stream from Weston High School and MWRA Reservoir #3 in surface water sampling program.
- o Analyze impacts on Charles River.

Lighting

- o Evaluation of various lighting types.

Comments and Discussion Points

- o Frederick Taintor disagreed with the response given to his suggestion that the EIR include an analysis of the effect of the project on the Speen Street overpass. He said that the Authority cannot say it is not responsible for increased traffic on Speen Street as a result of the Improvement Program. In his view, an analysis of this issue should appear in the EIR because the Turnpike Authority is adding to a situation in which lack of capacity is already a problem. Mr. Grilli responded that the transportation analysis of the EIR will demonstrate the project's impact on Speen Street by comparing the Build and No Build alternatives. The analysis will include an evaluation of the adequacy of Speen Street to meet future traffic demand. (The Turnpike Authority will work with the Town of Framingham in regard to the Speen Street bridge design as part of the EIR.)



o George Wallace said that an Emergency Response Plan should be prepared as part of the EIR because such a plan is required before a permit can be granted under Natick's Aquifer Protection By-Law. Mel Crain responded that the State Police are responsible for such emergencies. The Turnpike Authority maintenance personnel assist the State Police. Mr. Crain agreed to consult the State Police to determine whether they follow a formal, written plan.

STATUS REPORT: Field Studies

Traffic - Joseph Grilli, HNTB

Mr. Grilli handed out a final list of traffic count locations. He said that traffic counts are being taken this week. HNTB will shortly be conducting its accident research. He explained that the list he had distributed represents only the counts done directly by HNTB; additional counts will be obtained from the state and local DPWs and updated. He noted that the data used in the EIR studies will be available for review at the Weston repository.

Lighting- Mary Beth Martin, HNTB

Ms. Martin said that an electrical engineer had done preliminary field work. He had collected information on existing background lighting and shielding at the three light study locations: Interchange 14 ramps; Service Area 8E; and at the barrier toll plaza site. The engineer will do additional site work when design of the facilities is further advanced.

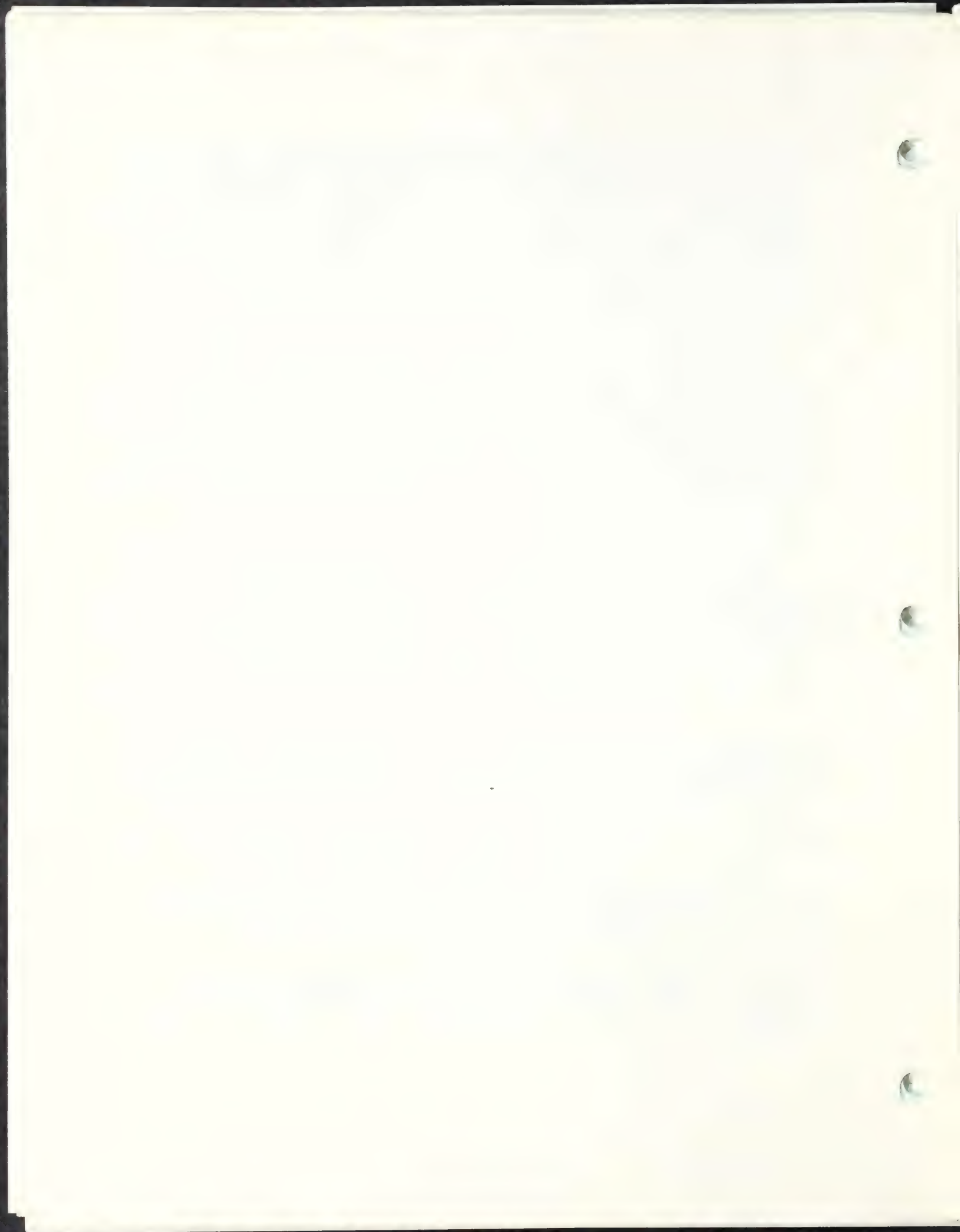
Recreation - Mary Beth Martin, HNTB

The recreation inventory has been completed. The list of facilities within one mile of the work area has been doubled after consultations with local Conservation, Recreation and Planning Departments. This list will be screened in the next phase prior to more detailed evaluation.

Historic and Archaeological - Mary Beth Martin, HNTB

HNTB has developed a background study of the Thomas Pierce House and Barn. Planners collected information on baseline conditions by meeting with the Massachusetts Historical Commission and contacting local individuals.

The archaeological study of the barrier toll location will be starting in May. The Public Archaeology Laboratory will be conducting the survey and has been obtaining the necessary permits to begin.



Water Supply/Water Quality - Carlton Noyes, Jason M. Cortell & Associates

Mr. Noyes briefly reviewed the surface water sampling program which began last November. He noted that, to date, the highest recorded sodium and chloride levels were on February 11, 1987. For example, chloride levels were recorded as 37 mg/l in Snake Brook and 163 mg/l in Nonesuch Pond; sodium at 19 mg/l in Snake Brook and 84 mg/l in Nonesuch Pond. In response to a question from Mr. Lawson on applicable standards, he said that the state drinking water standard is 20 mg/l for sodium although many states set a higher limit. The standard for chloride is 250 mg/l. Mr. Noyes added that the sampling period had been extended until June to see when parameters peak or level off.

Mr. Noyes then discussed work being undertaken to study impacts on water supplies. He said that his firm had coordinated with the engineering departments of Natick and Weston and had reviewed information on two commercial wells in Westborough. The study will also include an analysis of impacts on private wells.

PRIVATE WELL SAMPLING PROGRAM

Carlton Noyes, Jason M. Cortell and Associates

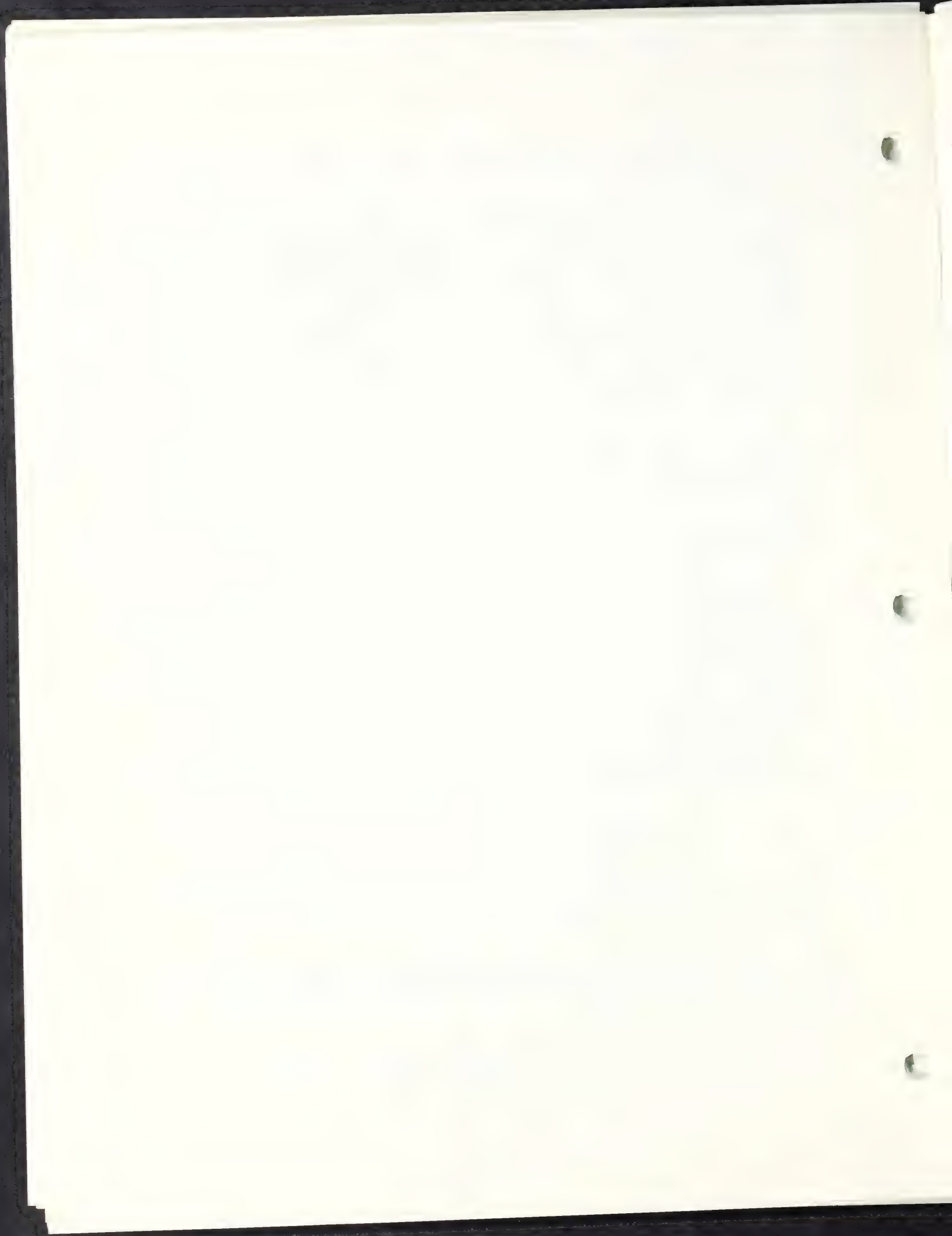
Mr. Noyes then continued his presentation with a description of the private well study program. He explained that the firm is now completing an inventory of private wells within one-half mile of the Turnpike and has identified 107. Following completion of the inventory, Mr. Noyes explained that his firm will be testing twenty to twenty-four "representative" wells for sodium and chloride levels. Before implementing the program, it will be reviewed with DEQE and consultants for the town of Weston. He discussed with the group how best to solicit homeowners to volunteer for the well testing program, which he said he wanted to begin within two weeks. It was agreed that this would be determined on a town-by-town basis after the meeting.

Comments and Discussion Points

o Mr. Albrecht asked why all wells were not being tested and Mr. Noyes responded that a representative well or wells would be chosen from each "cluster". Impacts are unlikely to vary significantly within clusters.

o Mr. Gaffney asked to what degree wells would be tested and Mr. Noyes explained that one sample would be collected and analyzed for sodium and chloride; a second sample might be taken if considered necessary.

o Mr. Wallace asked when the firm would be analyzing the groundwater flow net pattern, which he called critical to the interpretation of well sampling data. Mr. Noyes said that would



be done within the next two weeks while he was identifying volunteers for the well sampling program.

BARRIER TOLL PLAZA SITE SCREENING

Joseph Grilli, HNTB

Mr. Grilli distributed two handouts outlining the approach and results of the screening process used to compare the preferred ("ENF") site with six other possible sites located between Interchanges 11A and 12. He listed the site screening criteria: neighborhood impacts; impact on the natural environment; safety; and engineering suitability. Mr. Grilli then reviewed the site screening criteria grading system and the matrix which compares the scores of each site by criteria. He gave a site-by-site explanation of the rationale for the rating. (See attached handouts)

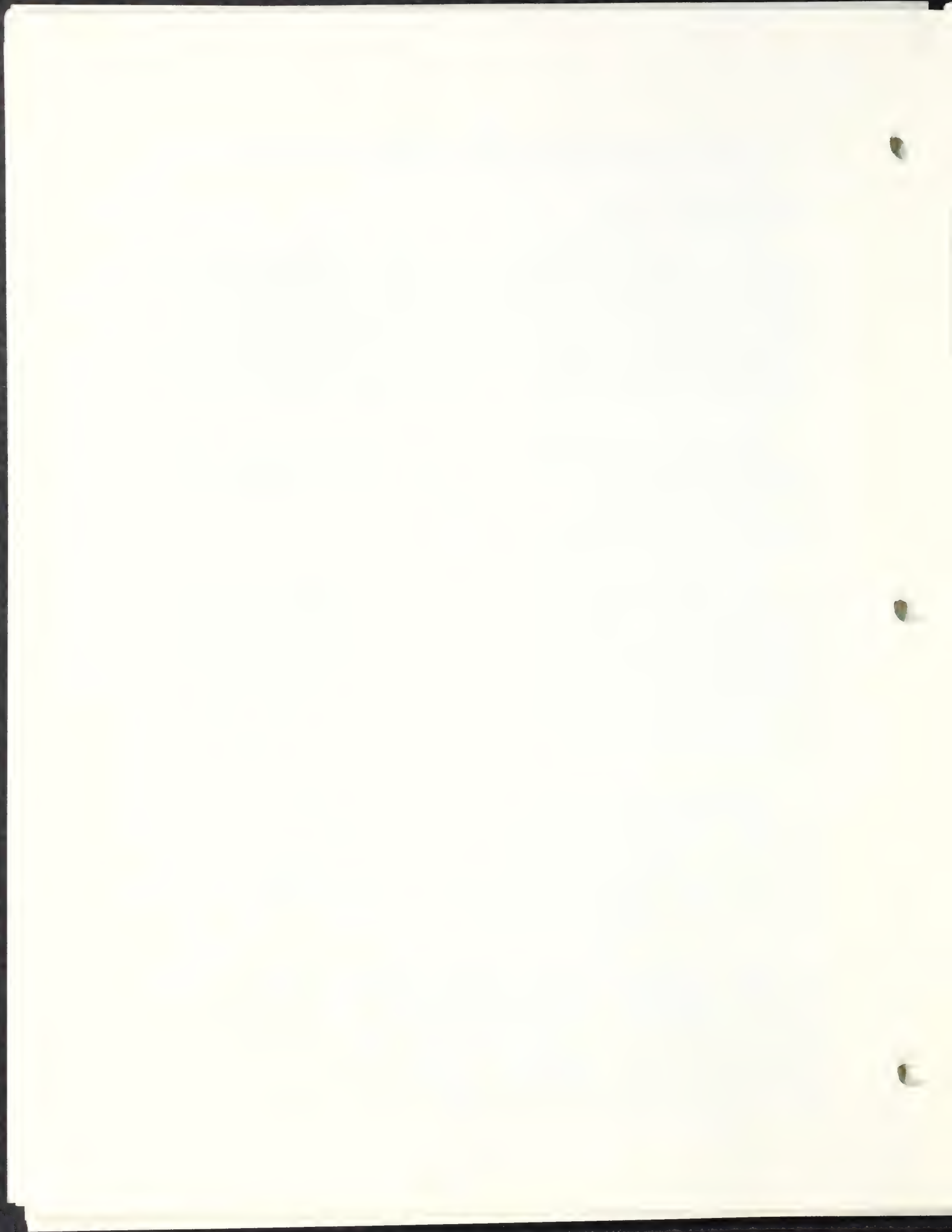
Mr. Grilli concluded by saying that the screening process reveals that no other site is so suitable for the barrier toll facility. Therefore, only the preferred site will be carried forward for full analysis in the EIR.

Comments and Discussion Points

o Mr. Gaffney asked whether the estimated amount of land taking is still six acres and where access to the plaza would be located. He asked whether the access driveway could be eliminated. Mr. Grilli noted that the center line of the plaza had been moved approximately three hundred feet to the west of the site proposed in the ENF last year. Access would be from Flanders Road. Mr. Walsh added that the land taking would be somewhat greater than 6 acres and that it has still not been decided whether the access road would be on the north or south side of the Turnpike. Mr. Grilli said that Turnpike operations require a driveway for safety reasons.

o The group discussed the impact of the large "9/90" office complex planned for the Framingham/Southborough line. Mr. Gaffney expressed his strong feeling that the Turnpike Improvement Program should be coordinated with this project, perhaps by moving the barrier toll to that location. Mr. Grilli explained the rationale for the system proposed in the ENF and said that conditions in the area would be improved by the proposed removal of toll booths in one direction at Interchange 12.

Mr. Taintor discussed his interpretation of the context in which Mr. Gaffney's comments should be taken. He said that the Turnpike Improvement Program aims to alleviate off-Turnpike traffic congestion by reducing congestion on the Turnpike; at the same time, the 9/90 project will greatly increase local traffic. He pointed out that it seems as if the Turnpike project had been defined and limited before the 9/90 project was conceived, and there appeared to be little likelihood that the project could be changed now to incorporate the 9/90 project. He also noted that



9/90 developers have said that the Turnpike Authority would not allow them to tie into the Turnpike. Mr. Crain said that, to his knowledge, the developers have made no proposal to the Authority to build a connector road with the Turnpike. Mr. Grilli added that construction of the proposed work at Interchange 12 would not preclude future capacity improvements at the Interchange.

OTHER BUSINESS

o George Wallace expressed concern about the bill being considered in the legislature to mandate noise barriers in communities affected by the Turnpike. He said he did not want one issue to supersede others in the EIR process. Mr. Grilli assured him that the EIR will continue as planned. Ms. DiCicco explained that the bill resulted from a meeting of the Noise Barrier Group with legislators in October. She recognized and appreciated the efforts of legislators but agreed that it is important that the action not run contrary to the EIR process. Mr. Costello gave the reasons for the action and said its main purpose is to put pressure on the Authority to recognize its responsibilities to those living near the Turnpike.

o Mr. Gaffney invited LLG members to attend a meeting with developers of the 9/90 project on April 9, 1987 at the Southborough Town Hall.

o The next meeting of the LLG was set for **Wednesday, May 6, 1987 at 3:30 p.m.**

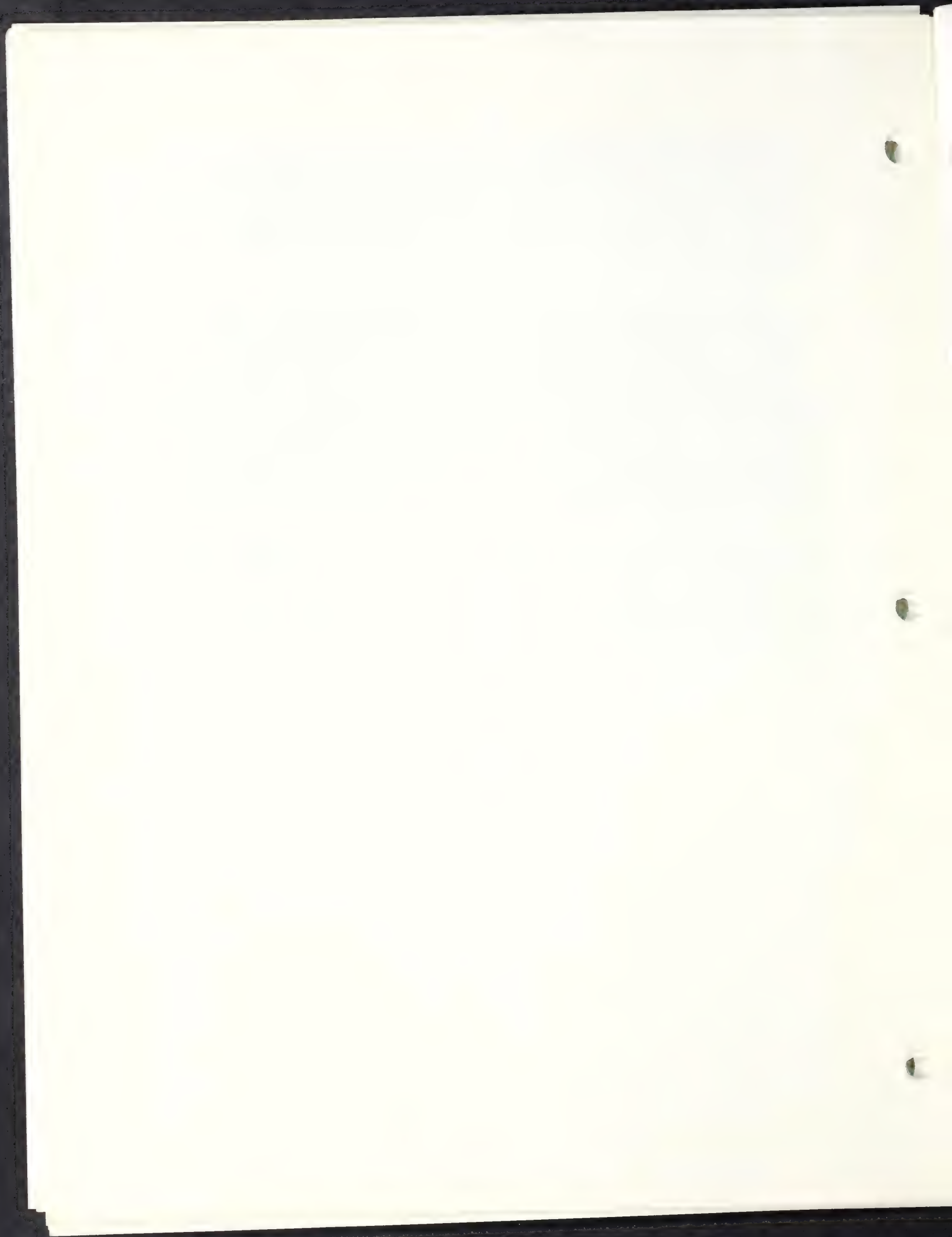
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HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

MASSACHUSETTS TURNPIKE AUTHORITY EIR

Barrier Toll 11A/12 Site Screening

PURPOSE

To evaluate the feasibility of alternative sites for the proposed barrier toll plaza between Interchanges 11A and 12

APPROACH

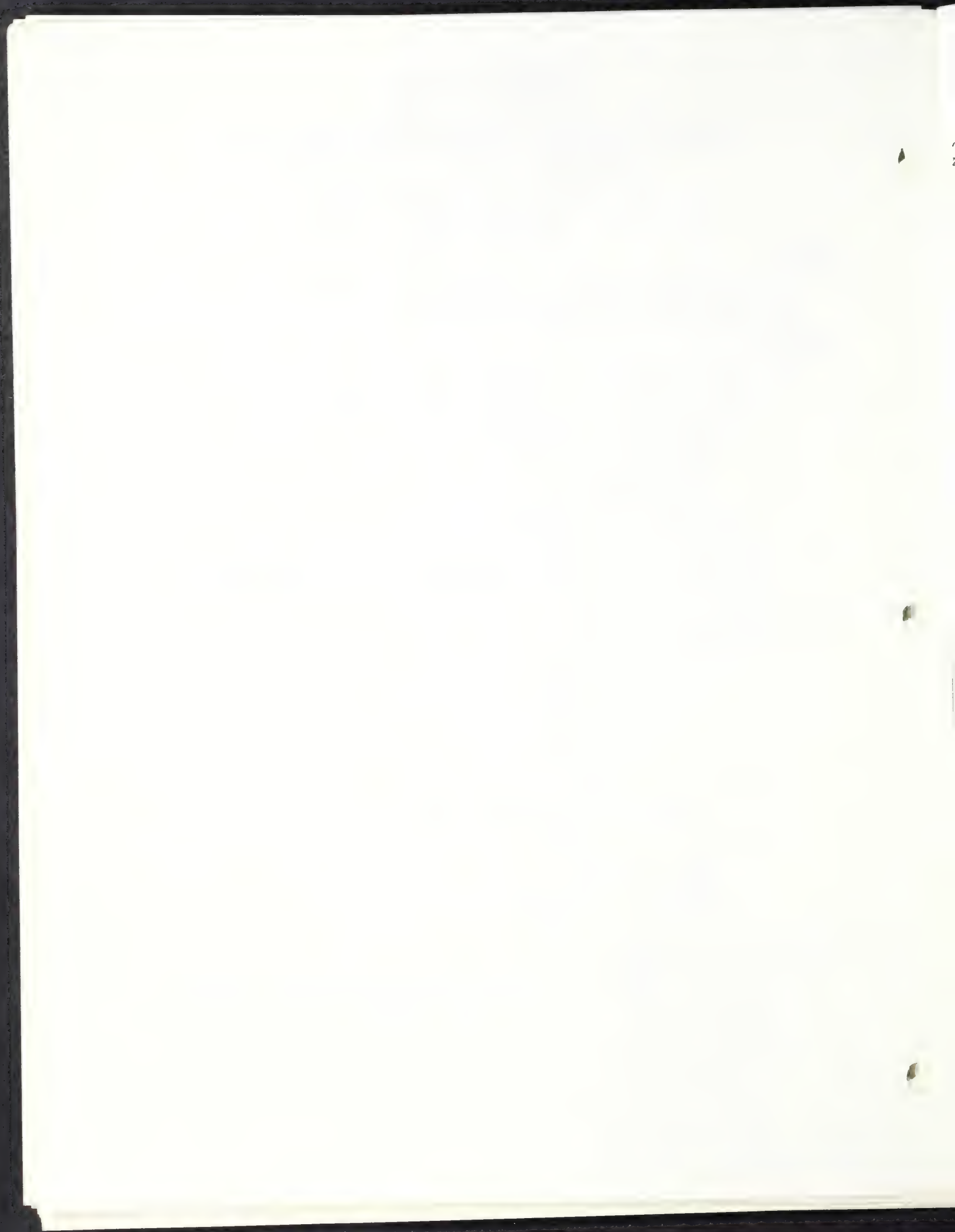
1. Identify sites that meet minimal engineering standards.
2. Collect applicable data on:
 - availability of utilities
 - land use
 - community issues
 - natural features
3. Apply site screening criteria (see below)
4. Determine if a site is suitable for detailed evaluation and comparison with Westborough/Southborough town line site proposed in the ENF.

SITE SCREENING CRITERIA

1. Neighborhood Impacts
 - maximize distance to residences and other sensitive land uses
 - minimize acquisition of residences
2. Impacts on the Natural Environment
 - minimize unavoidable alteration of natural resources
3. Safety
 - maximize safety for Turnpike patrons
 - maximize safety for users of local roads
4. Engineering Suitability
 - sight distance
 - grade
 - utility availability
 - structural or site work

TOLL PLAZA DESIGN FEATURES

1. 15 lanes across Turnpike mainline; extends 100-150 feet north and south from median at the plaza (approximately triples the existing pavement width)
2. Road tapers from east and west to the toll booth area starting 1,100 to 1,600 feet away
3. 65-foot x 35-foot utility building
4. Employee parking lot



HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

MASSACHUSETTS TURNPIKE AUTHORITY EIR

BARRIER TOLL 11A/12

SITE SCREENING CRITERIA MATRIX

<u>CRITERIA</u>	<u>SITE</u>						<u>ENF SITE</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	
NEIGHBORHOOD IMPACTS	1	2	0	1	0	2	2
IMPACTS ON THE NATURAL ENVIRONMENT	0	0	2	1	2	0	1
SAFETY	2	1	1	1	1	0	2
ENGINEERING SUITABILITY	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>
TOTAL	4	3	3	3	3	2	7

Criteria Grading

2 = Acceptable

1 = Marginally Acceptable

0 = Unacceptable

MMISC3/32

WESTBOROUGH

01581

TURNPIKE

MASSACHUSETTS TURNPIKE AUTHORITY

Environmental Impact Report on
Proposed 1988 Improvements

Barrier Toll 11A/12
Site Screening

ALTERNATIVES FOR EVALUATION

SITE 5
Mile 108.1

SITE 4
Mile 108.6

SITE 3
Mile 109.2

SITE 2
Mile 109.6

SITE 1
Mile 110

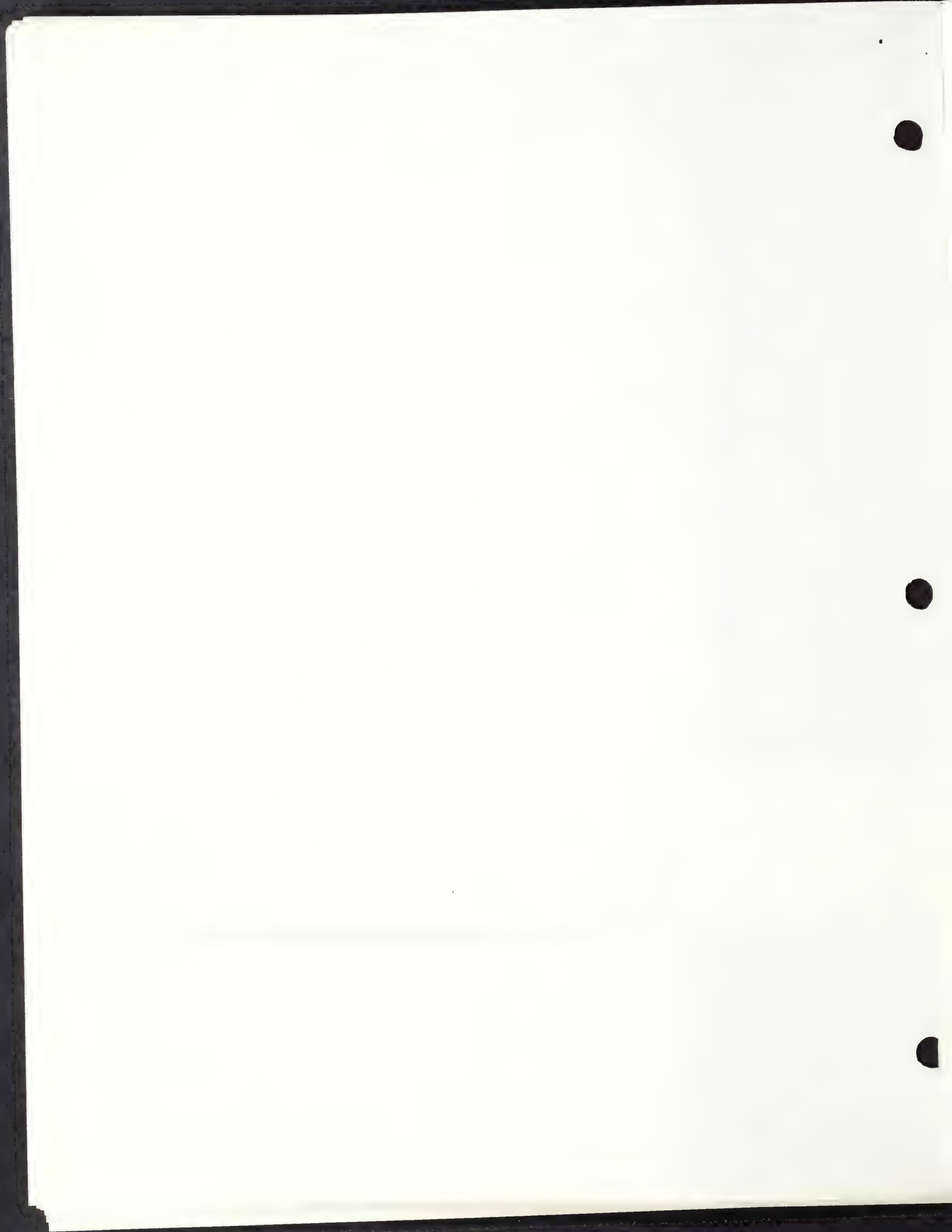
SITE 6
Mile 106.8

Site
From ENF

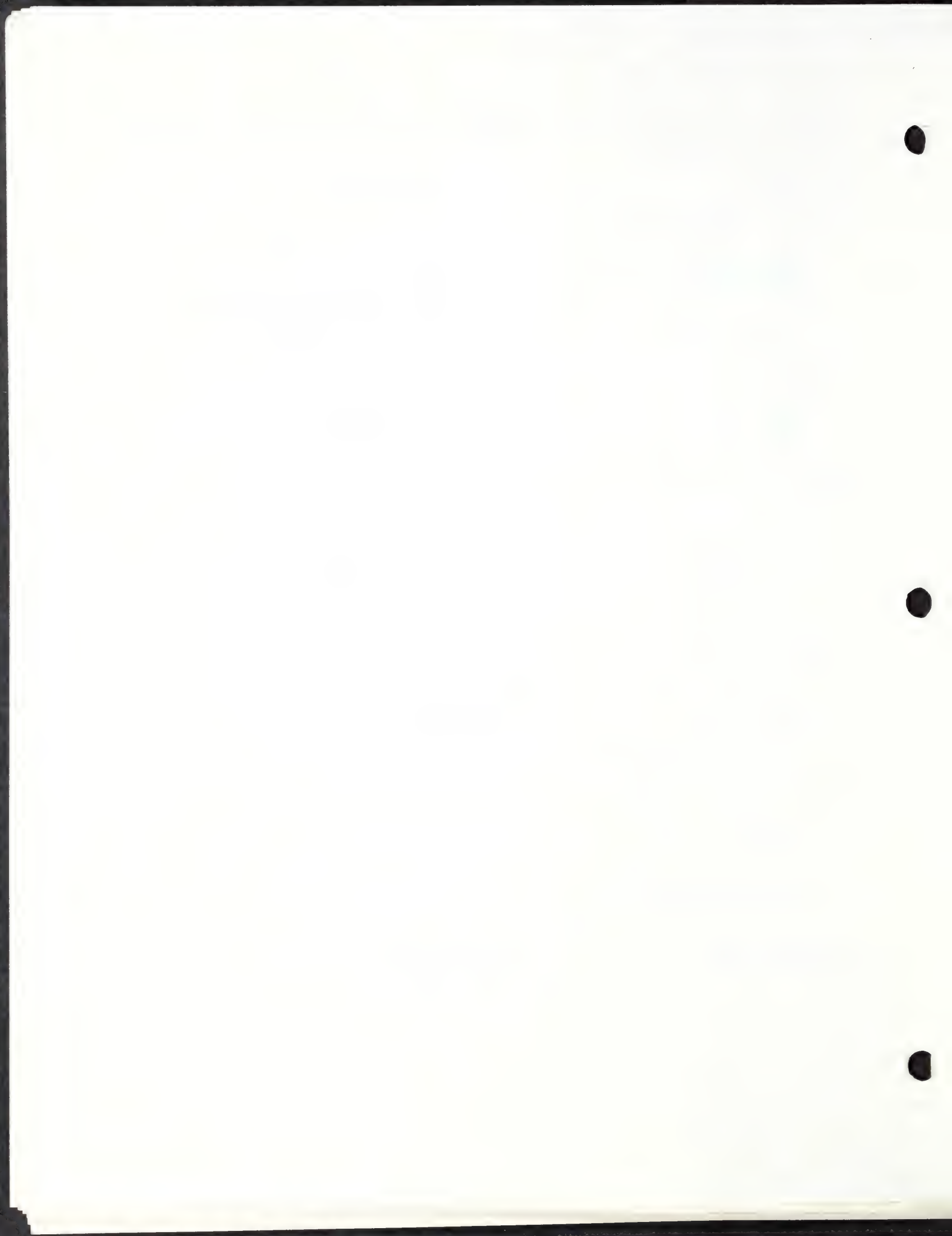
ASHLAND

01721

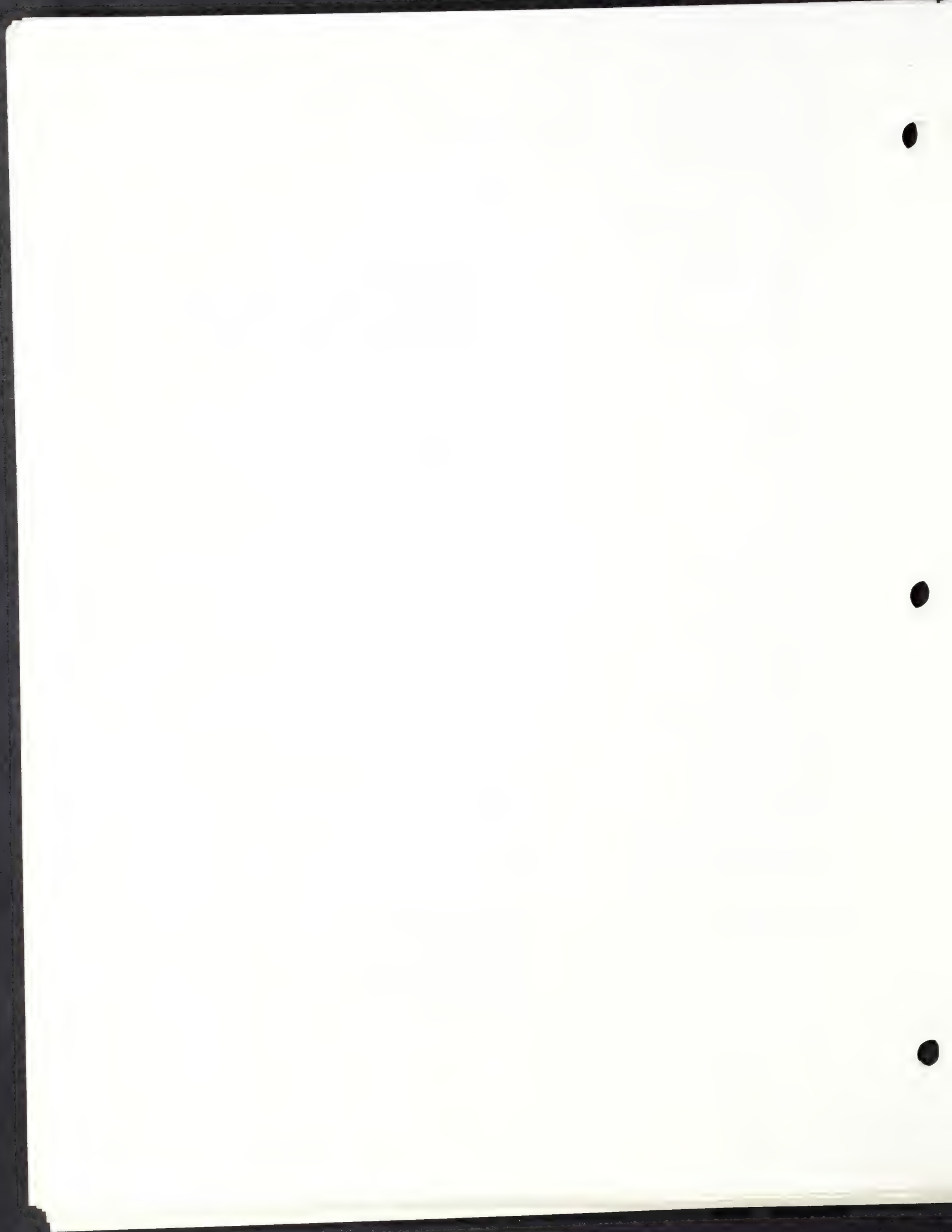
Indian Son



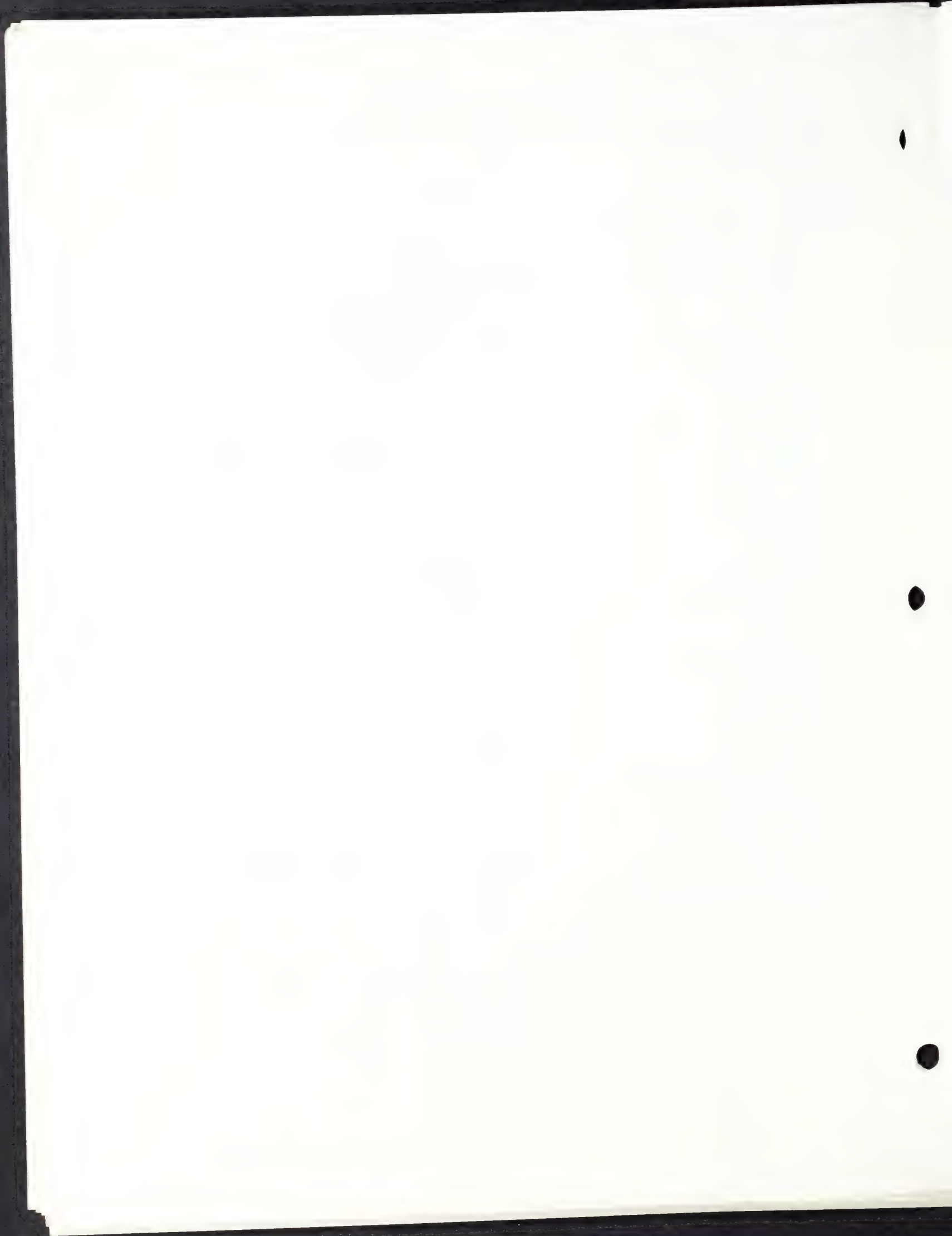
ITEM	SITE 1
Location/Mile Marker	110
Municipality	Southborough (Ashland)
Highway Design Suitability	
Sight Distance	Acceptable, to east and west
Profile Grade	2%+ to crest
Access	Walnut Drive & Vine Street - Poor
Comments	Oak Street, 900 ft. to east - Good
	May require widening abutments for
	Oak Hill Road overpass
Utilities	
Electric	Available at Walnut Drive & Vine Street
Sewer	Septic system required - soils good
Water	Available in Walnut Drive
Land use	
On-Site	N: wooded
	S: wooded
Surrounding	N: wooded/wetland/residential;
	3 houses w/in 500 ft.
	S: wooded/residential; 2 houses
	w/in 500 ft.
	N&S: approx. 50 houses w/in 1/4 mi.
Community Issues	
Ownership	Town
Zoning	Residential
Plans	Designated conservation/passive
	recreation area
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	No known streams or ponds in area;
	small forested wetland on north side
Protected Resources/ Regulatory Controls	Town-owned conservation land;
	archaeologically sensitive
Recommendations	Eliminate from further consideration:
	- conservation land
	- many homes nearby



ITEM	SITE 2
Location/Mile Marker	109.6
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	2%+ to low point
Access	Woodland Road, 900 ft. to west - poor Oregon Road, 750 ft. to south - poor
Comments	Requires extensive filling to match existing highway grade
Utilities	
Electric	Available at Oregon Road
Sewer	Septic system required - soils poor
Water	Available at corner of Oregon and Edgewood Roads
Land use	
On-Site	N: wooded
	S: wooded/wetland
Surrounding	N&S: wooded/wetland; 0 houses w/in 500 ft.; 8 houses w/in approx. 1/4 mi.
Community Issues	
Ownership	Town (majority)
Zoning	Residential
Plans	Majority is designated conservation/ passive recreation area
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Small streams, large forested wetland on south side
Protected Resources/ Regulatory Controls	Town-owned conservation land; wetland; archaeologically sensitive
Recommendations	Eliminate from further consideration: - poor access - downgrade hazard - conservation land - extensive filling - utilities



ITEM	SITE 3
Location/Mile Marker	109.2
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	1%+ to crest
Access	Breakneck Hill/Woodland Roads - poor Oregon/Edgewood Roads - Poor
Comments	Requires building part of plaza on bridge structure; conflicts with Turnpike access to Police Barracks
Utilities	
Electric	Available at Breakneck Hill & Woodland Road
Sewer	Septic system required - soils good
Water	Available in Breakneck Hill & Woodland Roads
Land use	
On-Site	N: local roads, police barracks S: local roads
Surrounding	N: residential; 1 house w/in 500' S: residential; 8 houses w/in 500' N&S: approx. 40 houses & 1 school w/in 1/4 mi.
Community Issues	
Ownership	Private/Turnpike Authority
Zoning	Residential
Plans	Proposed 5-lot subdivision off Breakneck Hill Road, north of site
Residence Acquisitions	May require taking up to 5 houses
Natural Features	
Terrestrial	Grassed lawns; scattered trees
Aquatic	Sudbury River tributary in western portion of site
Protected Resources/ Regulatory Controls	Archaeologically sensitive (appears disturbed)
Recommendations	Eliminate from further consideration: - taking of houses - many homes nearby - poor access - plaza on structure - proximity to Police Barracks



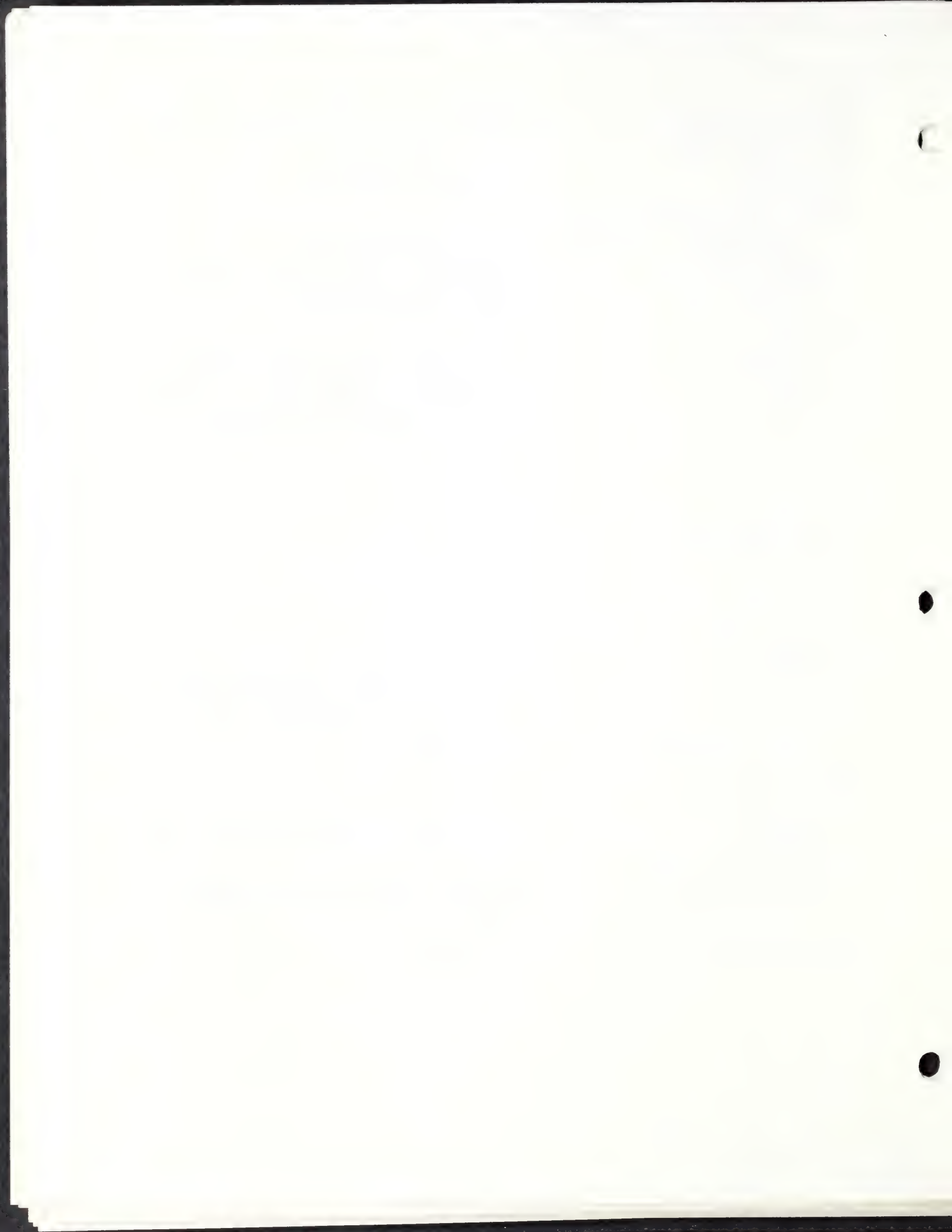
ITEM	SITE 4
Location/Mile Marker	108.6
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	2%+ to low point
Access	Cordaville Road, 300 ft. to east - very good
Comments	Requires widening bridge over Cordaville Road; requires extensive filling to match existing highway grade
Utilities	
Electric	Available at Cordaville & Rock Point Roads
Sewer	Septic system required - soils poor
Water	Available in Cordaville & Rock Point Roads
Land use	
On-Site	N: wooded/wetland S: wooded/wetland
Surrounding	N: wooded/wetland; 0 houses w/in 500 ft. S: wooded/wetland; 0 houses w/in 500 ft. N&S: approx. 30 houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential
Plans	Town has no specific plans; no known development proposals
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Large forested wetlands associated with Sudbury River tributary on north & south sides
Protected Resources/ Regulatory Controls	Wetland; archaeologically sensitive
Recommendations	Eliminate from further consideration: - downgrade hazard - many homes nearby - extensive filling, bridge widening - utilities



ITEM	SITE 5
Location/Mile Marker	108.1
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Very good, to east & west
Profile Grade	2%+ to crest
Access	Gilmore & Parkerville Roads - Poor
Comments	Requires building part of plaza on bridge structure
Utilities	
Electric	Available at Gilmore & Parkerville Roads
Sewer	Septic system required - soils good
Water	Available in Gilmore, Parkerville & Richards Roads
Land use	
On-Site	N: residential S: residential
Surrounding	N: residential; 9 houses w/in 500' S: residential; 4 houses w/in 500' N&S: approx. 40 houses & 1 school w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential
Plans	Proposed 172-unit affordable housing development on south side
Residence Acquisitions	May require taking up to 7 houses
Natural Features	
Terrestrial	Rock outcrop, grassed lawns, scattered deciduous/coniferous trees in yards
Aquatic	No known streams or ponds in area
Protected Resources/ Regulatory Controls	Archaeologically sensitive
Recommendations	Eliminate from further consideration: - taking of houses - many homes nearby - poor access - plaza on structure

ITEM	SITE 6
Location/Mile Marker	106.8
Municipality	Westborough (Hopkinton)
Highway Design Suitability	
Sight Distance	Fair, to east & west
Profile Grade	2%+ to crest
Access	Flanders Road, 1400 ft. to east through Great Cedar Swamp - good
Comments	Route 495 ramps conflict with required toll plaza road tapers; requires building plaza on bridge structure
Utilities	
Electric	Available at Flanders Road & Walkup Drive
Sewer	Sewer expected to be available in Flanders Road by Sept. 1988
Water	Available in Flanders Road and Walkup Drive
Land use	
On-Site	N: railroad, industrial
Surrounding	S: railroad, open space N: industrial, transportation, open space (Great Cedar Swamp) S: Open space (Great Cedar Swamp) N&S: no houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Industrial
Plans	Designated conservation area; town has no specific plans; no known development proposals
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Extensive forested wetland associated with Sudbury River headwaters
Protected Resources/ Regulatory Controls	Designated ACEC; archaeologically sensitive
Recommendations	Eliminate from further consideration: - extensiveness of impact on Great Cedar Swamp - plaza on structure - proximity to I-495 ramps - sight distance

ITEM	ENF SITE
Location/Mile Marker	107.6
Municipality	Westborough (Southborough)
Highway Design Suitability	
Sight Distance	Very good, to east & west
Profile Grade	1%+ to crest
Access	Flanders Road, 1400 ft. to west - good
Comments	No special design issues
Utilities	
Electric	Available at Gilmore & Flanders Roads
Sewer	Sewer expected to be available in Flanders Road by Sept. 1988
Water	Available in Flanders Road at Turnpike bridge
Land use	
On-Site	N: wooded S: wooded
Surrounding	N: wooded/wetland S: wooded/wetland N&S: 3 houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential/Industrial
Plans	No known development proposals for site; proposed 172-unit affordable housing development at eastern end of site on south side
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Rock outcrops, deciduous forest
Aquatic	Wetlands associated with Sudbury River on north and south sides
Protected Resources/ Regulatory Controls	Wetland; archaeologically sensitive; Species of Special Concern reported in vicinity
Recommendations	Carry to EIR





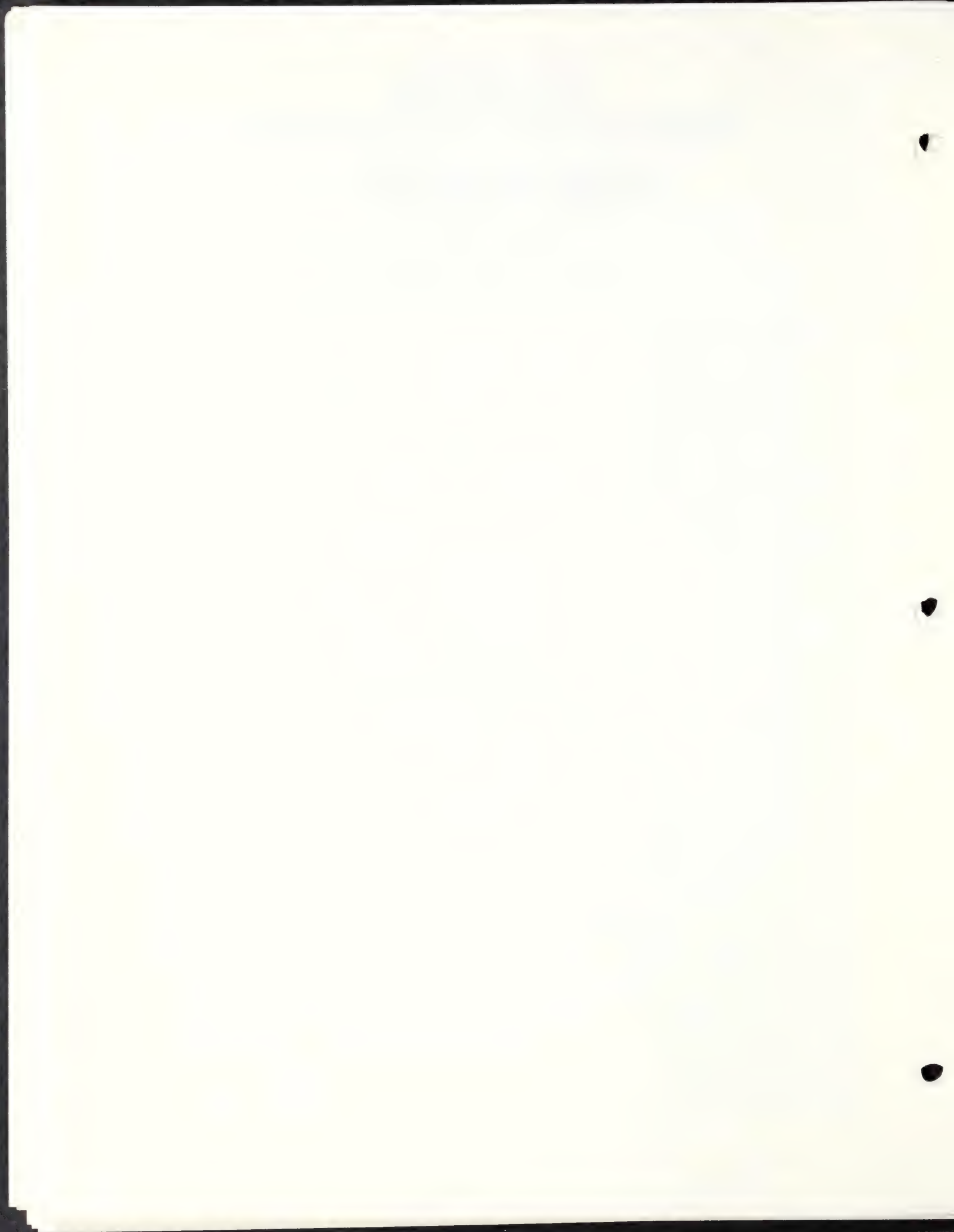
HOWARD NEEDLES TAMMEN & BERGENDOFF

**MASSACHUSETTS TURNPIKE AUTHORITY
ENVIRONMENTAL IMPACT REPORT FOR THE
1988 IMPROVEMENT PROGRAM**

TRAFFIC COUNTS

48-HOUR CONTINUOUS COUNTS

1. Route 126, Wayland
2. Route 27, Sudbury
3. Route 20, Marlborough
4. Route 135, Framingham/Ashland Town Line
5. Landham Road, Sudbury
6. Mass. Turnpike, Interchange 14
7. Mass. Turnpike, Interchange 13
8. Mass. Turnpike, Interchange 12
9. Mass. Turnpike, Interchange 11A
10. Mass. Turnpike, Mainline - Natick to Weston
11. Mass. Turnpike, Mainline - Westborough/Southborough
12. Route 85, Marlborough/Hudson Town Line
13. Edgel Road, Framingham
14. Flanders Road, Southborough
15. Route 126, Framingham
16. Route 135, Wellesley
17. Route 135, Natick
18. Union Avenue, Framingham
19. Speen Street, Natick
20. Route 20, Weston/Wayland Town Line
21. Route 27, Wayland
22. Route 30, Wayland
23. Route 30, Weston



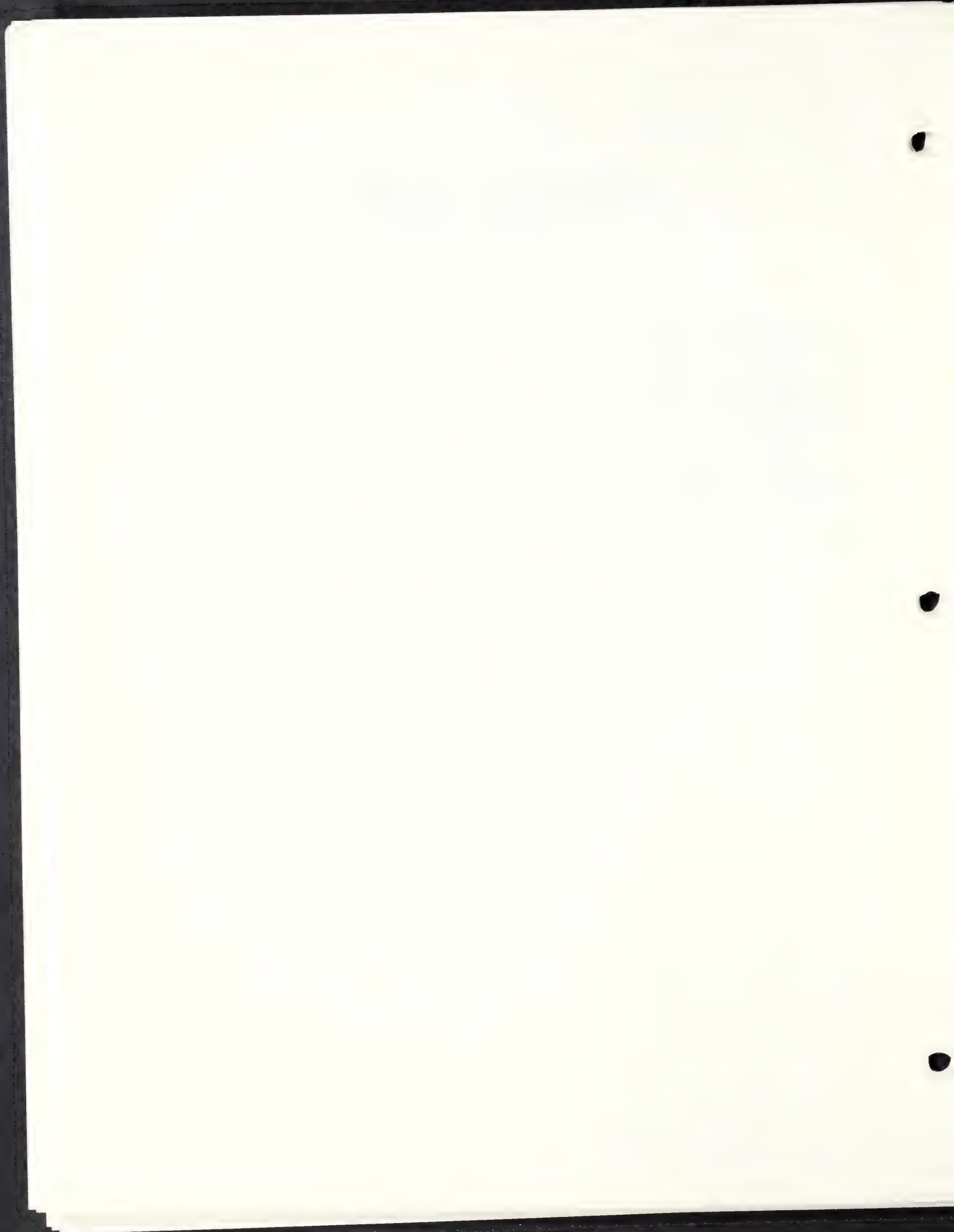
MASSACHUSETTS TURNPIKE AUTHORITY
ENVIRONMENTAL IMPACT REPORT FOR THE
1988 IMPROVEMENT PROGRAM

TRAFFIC COUNTS

48-HOUR CONTINUOUS COUNTS

- 24. Weston Road, Weston
- 25. I495/Route 9 Ramps
- 26. I495/Route 20 Ramps
- 27. Route 16, Wellesley
- 28. Route 30, Southborough
- 29. Route 9, Framingham
- 30. Route 9, Framingham/Natick Town Line
- 31. Route 9, Natick
- 32. Route 9, Wellesley (1)
- 33. Route 9, Wellesley (2)
- 34. Route 9, Southborough

MMISC3/42



HNTB

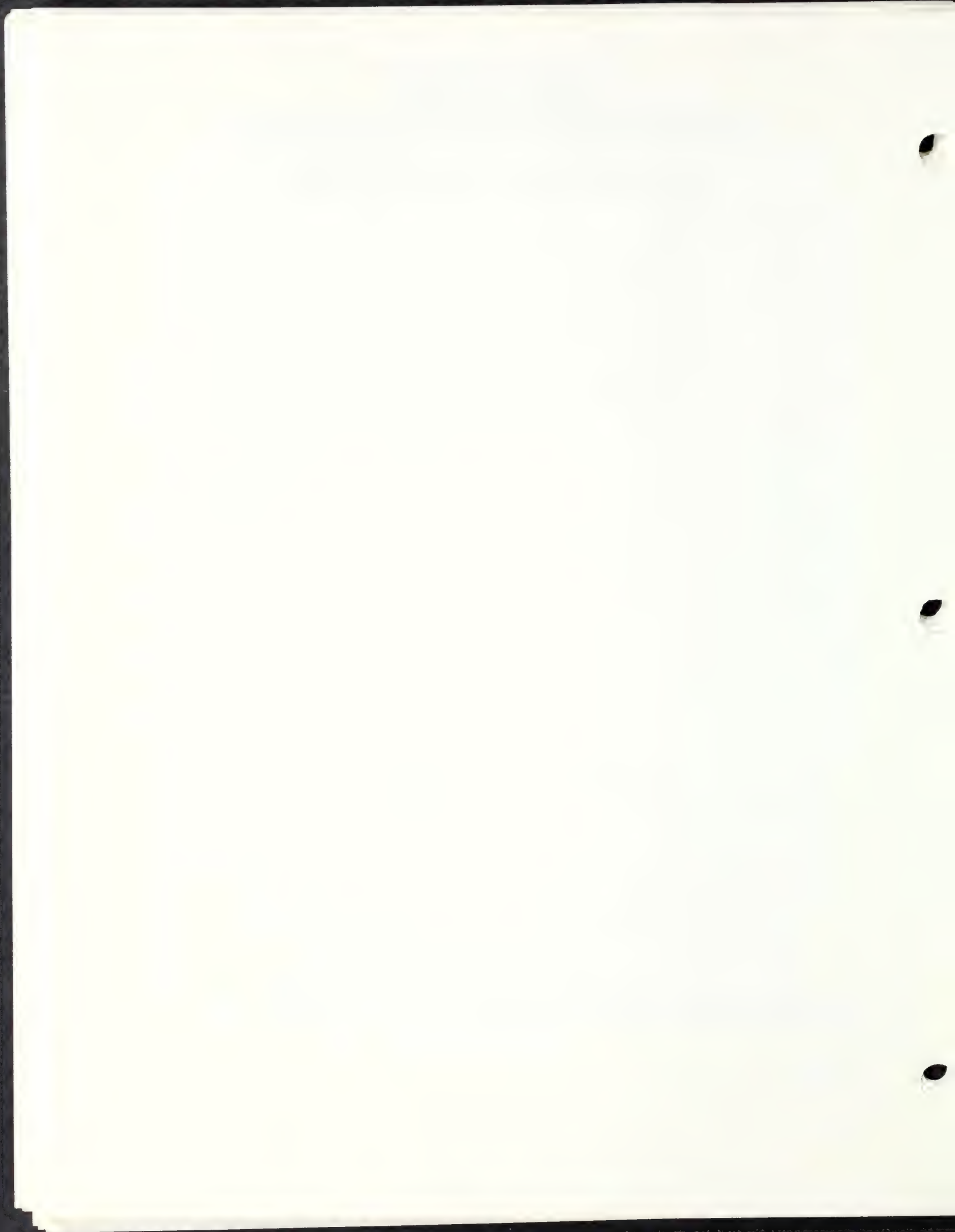
HOWARD NEEDLES TAMMEN & BERGENDOFF

TURNING MOVEMENT/VEHICLE CLASSIFICATION COUNTS

1. Route 20 at Route 27
2. Route 30 at Route 9
3. Route 126 at Route 135
4. Route 9 at Route 85
5. Route 20 at Nobscot Road
6. Route 30 at Newton Street 12 hour
7. Route 30 at Park Road 12 hour
8. Route 30 at Route 27 12 hour
9. Route 126 at Route 27
10. Route 9 at Speen Street
11. Route 135 at Route 16
12. Route 135 at Route 27
13. Route 16 at Route 9
14. Route 9 at Route 27
15. Route 135 at Speen Street
16. Route 126 at Route 9
17. Route 30 at Shoppers World 12 hour
18. Route 126 at Route 30 12 hour
19. Route 9 at Caldor
20. Route 9 at Edgel Road
21. Route 9 at Temple Street
22. Service Area 8E 12 hour

All locations to be counted from 7:00 - 10:00 A.M. and from 4:00 - 7:00 P.M. except as noted 7:00 A.M. - 7:00 P.M.

MMISC3/42



MASSACHUSETTS TURNPIKE AUTHORITY
1988 TURNPIKE IMPROVEMENT PROGRAM

Local Liaison Group (LLG) Meeting #2
March 4, 1987

AGENDA

3:00 p.m. INTRODUCTION - Barry Lawson, Barry Lawson Assocs.

- o Review of Meeting Notes - January 29th meeting
- o Timetable for Finalizing Technical Work Plan

3:10 PRESENTATION OF TECHNICAL WORK PLAN

Transportation Studies

- o Traffic Service Joseph G. Grilli, Howard Needles Tammen & Bergendoff (HNTB)
- o Travel Demand Edward Bromage, Central Transportation Planning Forecasting Staff

Noise Christopher W. Menge, Harris Miller Miller & Hanson, Inc. (HMMH)

Air Quality Jeffrey A. Tarde, Tech Environmental, Inc.

Water Supply/
Quality Carlton L. Noyes, Jason M. Cortell & Associates

Wetlands Amy Braiewa, Jason M. Cortell & Associates

Light Impacts Mary Beth Martin, HNTB

Recreation Mary Beth Martin, HNTB

Historical and
Archaeological Mary Beth Martin, HNTB

5:25 OTHER BUSINESS

- o Date for next meeting: Proposed date - April 8, 1987

5:30 Adjourn





Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #2

MEETING NOTES (Revised April 9, 1987)

Date: March 4, 1987
Time: 3:00 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Frederick S. Taintor, Planning Director
Town of Natick: George Wallace (Conservation Commission),
William Costello
Town of Southborough: Janice Conlin, Town Administrator
Town of Wayland: Theresa L. DiCicco
Town of Westborough: Dexter Blois (Town Administrator), John
Walden (Department of Public Works), Rich Citro
Town of Weston: Richard W. Albrecht

Other Officials and Members of the Public

J. Ward Carter, Weston Executive Secretary

Massachusetts Turnpike Authority

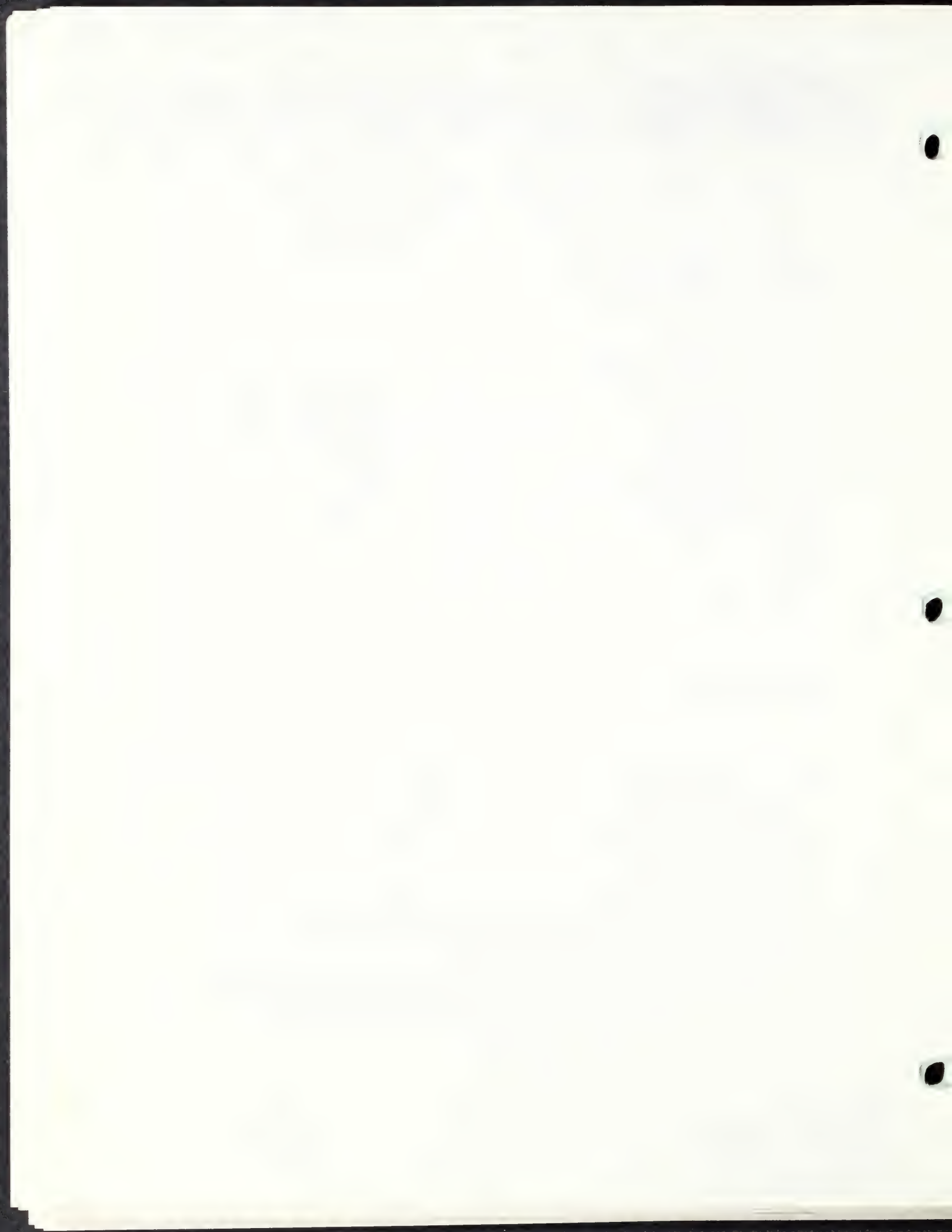
Mel C. Crain, Chief Engineer
Edward M. King, Director of Community Relations

Consultants

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff, HNTB
Gary Walsh, Massachusetts Turnpike Project Manager, HNTB
Joseph Grilli, EIR Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Lisa Drucker, Environmental Planner, HNTB
Christopher Menge, Senior Consultant, Harris Miller Miller &
Hanson
Jeff Tarde, Environmental Consultant, Tech Environmental, Inc.
Peter Guldberg, President, Tech Environmental, Inc.
Edward Bromage, Manager of Traffic Analysis and Design, Central
Transportation Planning Staff (CTPS)
Carlton Noyes, Vice President, Jason M. Cortell & Associates, Inc.
Amy Braiewa, Ecologist, Jason M. Cortell & Associates, Inc.
Barry Lawson, President, Barry Lawson Associates, Inc.
Ann Jacobson, Community Relations Coordinator, Barry Lawson
Associates, Inc.

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.



Barry Lawson, of Barry Lawson Associates Inc., moderated the meeting. He welcomed the group and asked members to introduce themselves. Following introductions, the group voted to accept the notes from the January 29th meeting as written.

Mr. Lawson then discussed the purpose of the meeting, obtaining input from the LLG members on the Technical Work Plan for the EIR. He said that the meeting would consist of a brief presentation on each section of the Work Plan, followed by a question and answer period. He asked LLG members to refer to the handout entitled "Technical Work Plan - Summary Handout", dated March 4, 1987, for an outline of each presentation. (See Attached)

Mr. Lawson told the group that comments on the Work Plan would be accepted until March 13, 1987, after which HNTB and the Authority would review comments received and finalize the Work Plan. He mentioned that the Authority and its consultants would be meeting with the Town of Weston's legal and technical consultants to review the Work Plan on March 6 and 9th, and invited any community to send a representative to these meetings.

PRESENTATION OF TECHNICAL WORK PLAN

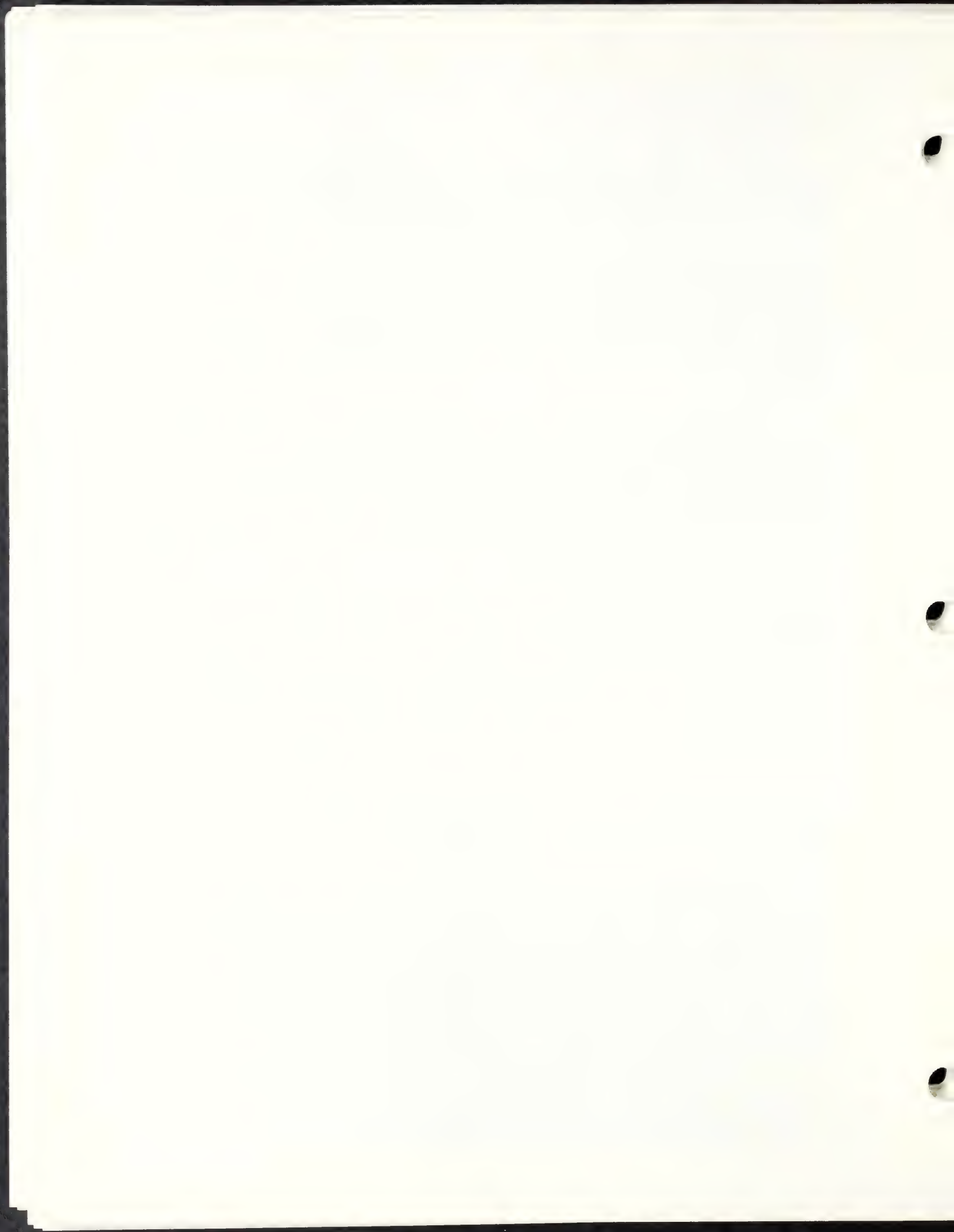
Traffic Service: Joseph G. Grilli, HNTB (See outline, p.1-5)

Travel Demand Forecasting, Edward Bromage, CTPS (p. 6-7)

Referring to the list of roads to be studied, George Wallace stated that Route 30 should be included. Mr. Grilli assured him that it would be studied. Dexter Blois noted that there is no intersection of Route 30 and 495. He suggested that traffic studies should start at Route 9.

Richard Albrecht asked why a barrier toll is needed. He suggested that tolls could be collected at toll ramps. Mr. Grilli explained that traffic is continuing to grow and there is not enough room for expansion on the ramps.

Rich Citro expressed basic disagreement with the approach to siting the barrier toll plaza. He said that the current plans will do nothing to improve the congestion at the Route 495 Interchange. He suggested that the toll plaza should be located west of Route 495 in anticipation of growth in the area. In reply to Joe Grilli's explanation of the need to maintain "toll equity", Mr. Citro urged the engineers to consider such innovative solutions as a divided entrance ramp onto I-495. Mr. Grilli noted that Route 495 is located in an environmentally sensitive area (Cedar Swamp) and any changes involving expansion would require careful environmental evaluation. Mel Crain added the Authority is evaluating ways to improve the situation at Route 495, including the addition of toll booths. However, Mr. Crain stressed that the Turnpike breaks down into distinct "segments". He said that the barrier system relates to interchanges east of



495; the 495 segment is considered independent as far as improvements are concerned.

Mr. Citro asked whether a site has been selected. Mr. Grilli explained that a screening process is now being carried out. The engineering feasibility and environmental sensitivity of several sites are now being evaluated. The potential alternative sites will be screened down from four to one alternative (if one site is found to be feasible from an engineering standpoint). This site will be compared with the preferred site.

Bill Costello asked whether manual and automatic counting of traffic will differentiate between truck and car traffic. Mr. Grilli explained that manual counts will be used to classify vehicles.

Rick Taintor had several questions about the use of the Route 9 model in predicting future traffic. He asked how the traffic modeling approach will deal with state policy on Route 9. The state has expressed a wish to make Route 9 a through-road and eliminate left turns to the greatest extent feasible. Mr. Taintor noted that this may have an effect on the trip distribution pattern. Mr. Bromage explained that the state is discussing a number of options, but none has been reviewed or selected by EOTC or DPW. However, the agencies will be contacted again to obtain the most current plans for roadway modifications. These will be input to the model.

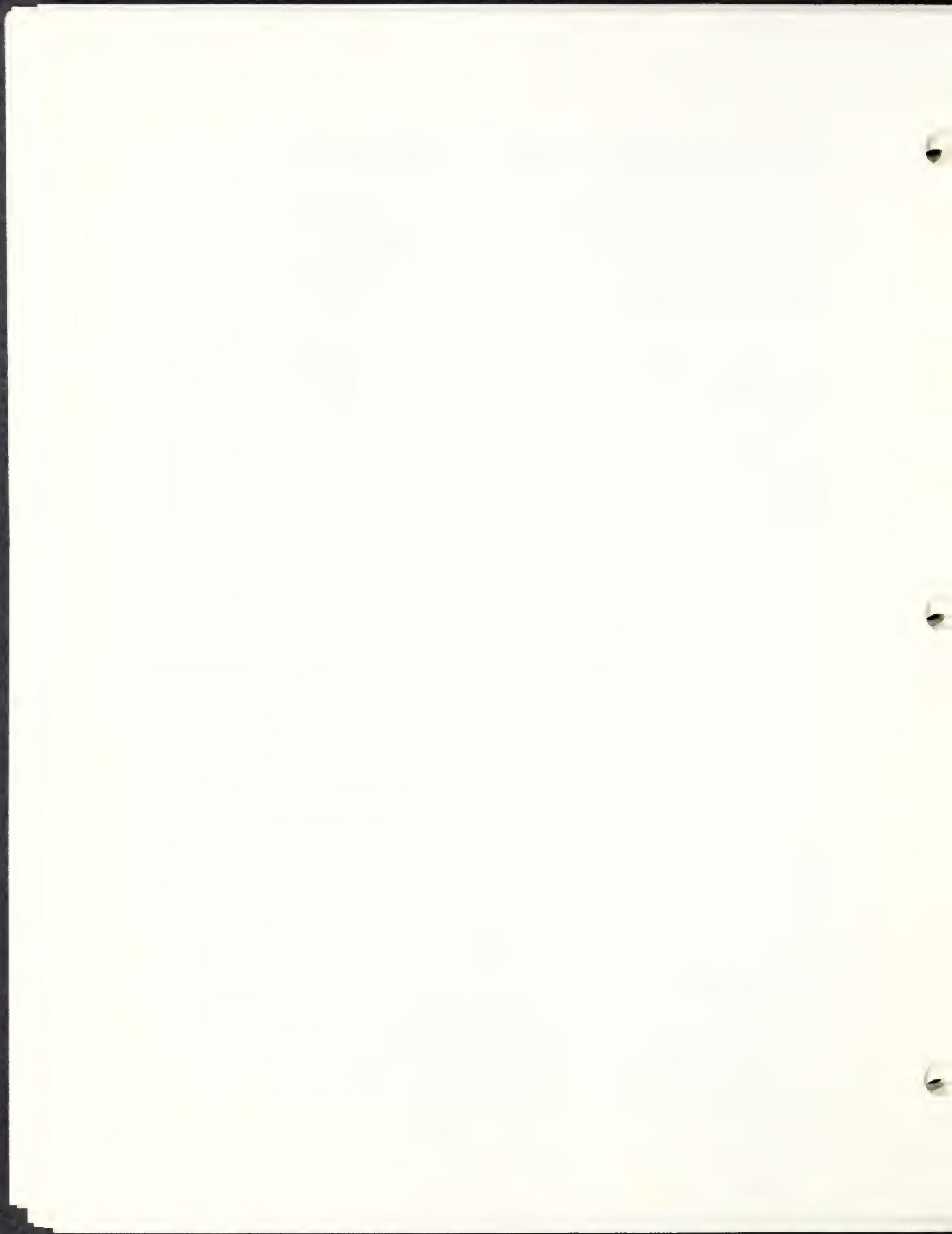
Mr. Taintor also expressed concern that the information contained in the Route 9 model has been considered "proprietary", and therefore not accessible by communities. Mr. Bromage explained that CTPS had been inundated with requests for information from both local officials and developers, and did not have sufficient staff to handle these requests while actually doing the modeling work. When the modeling work is complete, information will be made public.

Mr. Taintor then asked how the Route 9 model will address proposed modification of Route 9 at Caldor Road. This realignment will change traffic patterns associated with the Turnpike. Mr. Grilli said that the traffic studies will take into consideration the state's, cities, and towns' committed or planned changes to the road network.

**Noise, Christopher Menge, Harris Miller Miller & Hanson
(See Outline, p.8-9)**

Several LLG members added streets to the list of proposed noise measurement sites given by Mr. Menge:

o Janice Conlin added streets in the vicinity of the alternative sites being screened for the barrier toll facility.



o Bill Costello mentioned: Hammond Road/Avenue; Main Street (North and South); Langdon Road; road off Pine Street; Wayland Town Beach (North Lake). Mr. Costello also said he could supply a secure location for a noise measurement device in a locked pool area fifty feet from the Turnpike roadbed.

o George Wallace added: Oak Street (from Pine to Route 30); Rivers Country Day School.

o Theresa DiCicco added: Nancy Road (off Winter); Haven Lane (off Timber Lane; Clubhouse Lane)

Mr. Carter asked whether foliage muffles noise to the extent that noise measurements are affected by the time of year. Mr. Menge stated that foliage has almost no effect on traffic noise levels. Deep forest with dense undergrowth does, however, result in excess noise reduction, but this can be interpreted as a "ground effect", caused by the soft forest floor.

Rich Citro asked whether there is a pre-determined noise level which has been determined as a standard. Mr. Menge explained that consultants will look at the FHWA "worst hour" standard (67 dBA), the HUD criteria of 65 dBA, and a nighttime sleep criteria. Richard Albrecht asked whether such standards take into account noise increases which are significant, but still below the standard. Mr. Menge said an increase in existing noise criterion will be applied.

Theresa DiCicco asked whether interior noise will be measured, citing a situation she is aware of in which communication is impaired between kitchen and dining room. Mr. Menge said that interior noise measurements are not normally taken because noise varies tremendously, depending upon the layout and furnishings present in the home.

George Wallace noted that there are no standards for mufflers and out of state trucks are noiser. Mr. Menge said that laws governing truck noise do exist, but EPA's noise office has been dismantled and there is no state level enforcement.

Air Quality: Jeff Tarde, Tech Environmental, Inc.
(See Outline, p. 10-12)

Mr. Carter asked to what extent the consultant would be examining the impact of Route 128 and its vicinity. Mr. Tarde said that the mesoscale analysis would examine Route 128 between Route 135 in the south and Route 20 in the north. The microscale analysis will evaluate Route 128 in the area in which it intersects with the Turnpike.

Theresa DiCicco asked what air quality mitigation measures might exist, for example regarding Service Area 8E. Mr. Tarde said that typical mitigation measures might include moving parking spaces, decreasing the number of spaces or spreading spaces out.

Mitigation measures will be evaluated if the study shows air quality violations at the proposed service area.

Mr. Wallace asked whether the five-minute idling law could be enforced as a way of reducing truck emissions. Mr. Costello stated that some enforcement had taken place, but trucks frequently idle for long periods of time at Service Area 8E. Mr. Crain stated that the Authority is sensitive to the concerns about truck idling and has been enforcing the five-minute idling law.

Water Quality/Supply: Carlton Noyes, Jason M. Cortell and Associates.

(See Outline, p. 13-14)

Rick Taintor asked why the Sudbury River and MDC Reservoir #3 in Framingham had not been included in the surface water monitoring program. Mr. Noyes said that it has been determined that, in view of the limited changes proposed for this segment, and the large amount of drainage the Sudbury River receives from the towns of Framingham and Ashland, it is not considered necessary to include the Sudbury River in the monitoring program. Similarly, it was determined that the vast volume of water in the reservoir compared with limited changes caused by the project would make monitoring unnecessary.

Mr. Carter asked whether the study of Seaverns Brook includes examination of the impacts of the project on the Charles River. He suggested that the Charles River Watershed Association would have an interest in that information. Mr. Noyes said such a determination is not currently in the program, but will be added.

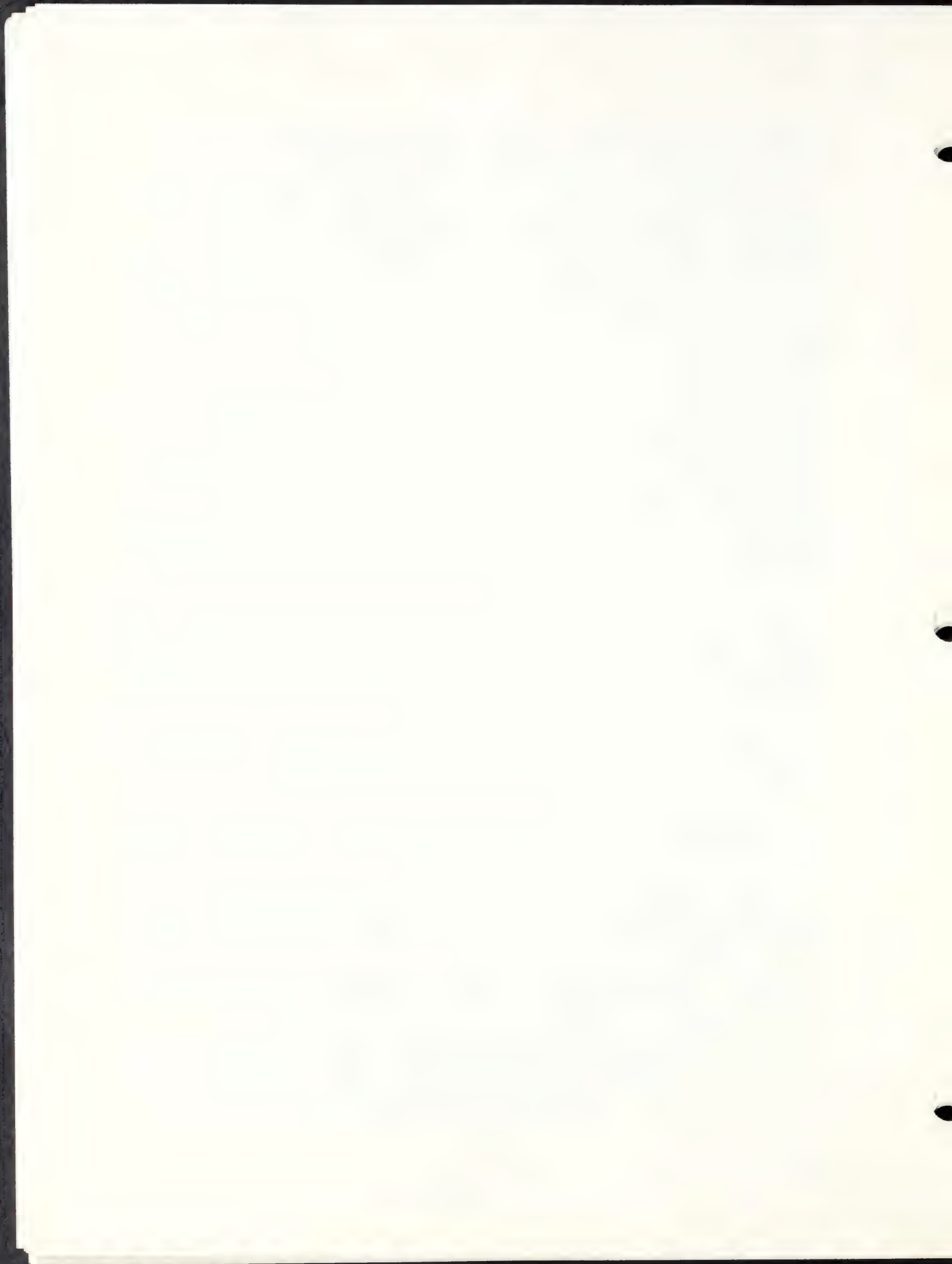
Ms. DiCicco asked Mr. Noyes to consider studying a brook which runs parallel to the Turnpike and Dean Brook. She had received information that it was a viable waterway to Lake Cochituate before the construction of the Turnpike.

Mr. Wallace asked whether the EIR would include groundwater sampling in the area around Service Area 8E. Mr. Noyes replied that it would.

Mr. Citro noted that some residents are on private wells and asked whether testing of these wells would be undertaken. Mr. Noyes said that he will be obtaining information on the location of all private wells in the area.

Wetlands: Amy Braiewa, Jason M. Cortell and Associates.
(See Outline, p. 15-16)

Ms. DiCicco expressed concern about the wetland area along Route 30 and Lake Cochituate. Gary Walsh said that the Authority will be investigating the feasibility of using the median strip to widen the road at that point, to avoid disturbing the area.



Mr. Citro was concerned about the possible implications of the project on Cedar Swamp, especially the use of Flanders Road as a service road. Ms. Braiewa said that, because Cedar Swamp is an Area of Critical Environmental Concern (ACEC), any filling of wetlands must be limited to the greatest extent possible.

Mr. Wallace asked how the timing of a Corps of Engineer review of the project corresponds with the EIR process. Ms. Braiewa said that it has not yet been determined whether a Section 404 permit is required. If a permit is required, the Corps then determines whether a hearing is necessary.

Light Impacts: Mary Beth Martin, HNTB
(See Outline, p.17)

Dexter Blois expressed opposition to the use of low pressure sodium vapor lighting at the barrier toll plaza site.

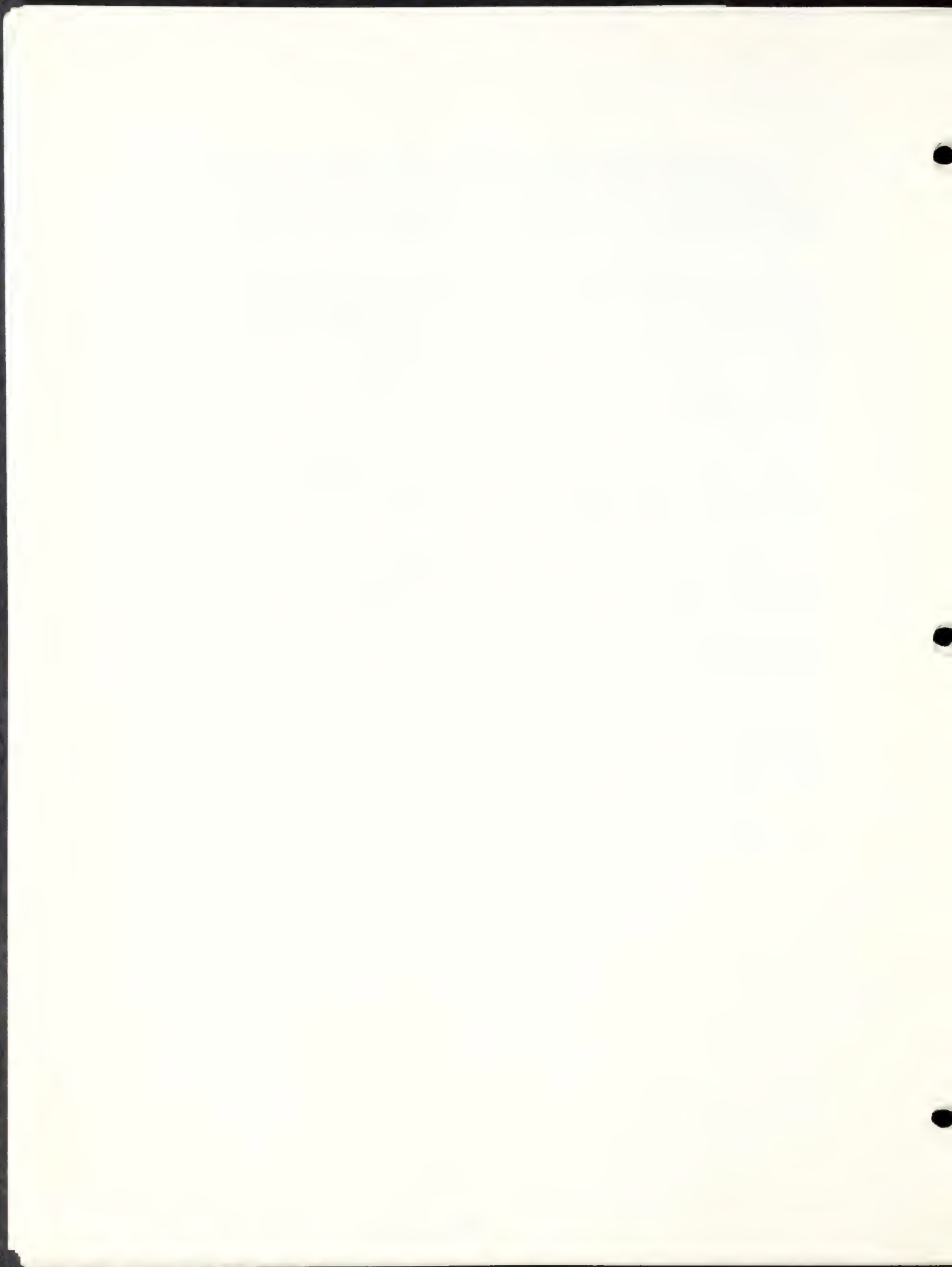
Recreation: Mary Beth Martin, HNTB
(See Outline, p.18)

Dexter Blois added several recreational parcels to the list supplied: passive recreation parcel owned by the Sudbury Valley Trustees near Flanders Road; a parcel near Walnut and Route 30; and an 80 acre parcel on Breakneck Hill Road.

Historical and Archaeological: Mary Beth Martin, HNTB
(See Outline, p. 19)

Mr. Carter pointed out that a distinction should be made between the Historical Commission and the Historical Society. He suggested that the project team consult the Commission which is a Town appointed body. Southborough and Westborough members made similar comments.

Dexter Blois suggested that the project team contact Curtis Hoffman, a local archaeologist, for more information on the area.



ENVIRONMENTAL IMPACT REPORT (EIR)
MASSACHUSETTS TURNPIKE AUTHORITY'S
1988 TURNPIKE IMPROVEMENT PROGRAM

LOCAL LIAISON GROUP (LLG) - Meeting # 1

MEETING NOTES

Date: January 29, 1987

Time: 4:00 p.m.

Place: Weston Engineering Headquarters

ATTENDANCE:

LLG Members:

Rick Taintor, Planning Director, Town of Framingham
George Wallace, Conservation Commission, Town of Natick
Jim Bedford, Mass Pike Citizens Group (temporary alternate LLG member from Natick)
Janice Conlin, Town Administrator, Town of Southborough
Charles Gaffney, Chairman, Southborough Planning Board (alternate LLG member)
Theresa L. DiCicco, Wayland, Chairman of the Mass Pike Citizens Group
Dexter Blois, Town Administrator, Town of Westborough
Jean Thurston, Weston Selectman (alternate LLG member)

Other Officials and Members of the Public:

H. B. Willis, Weston Selectman
J. Ward Carter, Weston Executive Secretary
John R. Driscoll, State Representative - Westborough
Gregg Lasky, Middlesex News

Massachusetts Turnpike Authority:

John T. Driscoll, Chairman
Mel C. Crain, Chief Engineer
John N. Grim, Assistant Chief Engineer
Edward M. King, Director of Community Relations

Consultants:

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff (HNTB)
Gary Walsh, Mass Turnpike Project Manager, HNTB
Joseph Grilli, EIR Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Coordinator, Barry Lawson Associates

Barry Lawson, of Barry Lawson Associates, moderated the meeting. He welcomed the group and introduced John T. Driscoll, Chairman of the Massachusetts Turnpike Authority. Mr. Driscoll welcomed those attending and noted that the Authority is committed both to undertaking a thorough review of the environmental effects of the improvement program and to effective communication with affected communities. He said that the Authority had assembled a qualified team which will do the job correctly. He added that he is available to attend LLG meetings if members feel his attendance would prove useful.

Mr. Lawson then asked the group members to introduce themselves and speak briefly of their interest in the issues and their organizational affiliation.

Gordon Slaney of Howard Needles Tammen & Bergendoff (HNTB), the Authority's consulting engineers, then introduced the technical team. Mr. Slaney listed the team of sub-consultants which has been assembled to assist with studies and analyses required for the EIR: Harris Miller Miller & Hanson (noise); Tech Environmental, Inc. (air quality); Jason M. Cortell & Associates (water quality and wetlands); Barry Lawson Associates, Inc. (community relations). In addition, traffic modeling work will be done by the Central Transportation Planning Staff (CTPS) of the Metropolitan Area Planning Council (MAPC). Mr. Slaney asked his staff to describe the project and the EIR schedule.

Gary Walsh briefly described the proposed program of improvements. He stated that five locations for the new barrier toll plaza will be studied. Joe Grilli discussed the status of the EIR and the schedule for its completion. He noted that workplans are now being prepared and will be mailed to the LLG on February 19th. Wetland areas have been delineated; water quality monitoring has begun and will continue through the spring. Mr. Grilli briefly reviewed the schedule (see attached), which calls for the release of the Draft EIR at the end of August 1987.

Mr. Lawson then reviewed the functions of the LLG: information (serving as a contact person for community residents for information on the project); consultation (giving input to the team on issues of concern); review of technical material (commenting on work plans, data, methodology and insuring that material is thorough and understandable).

The group then discussed the following issues:

- o Arranging a meeting of Turnpike Authority consultants with Weston legal consultant, Michael Gerrard: In response to a request for such a meeting by Jean Thurston, Mr. Lawson said that no final decision has been made on an appropriate meeting time. He suggested that Mr. Gerrard might meet to review the work plans at the next LLG meeting. After some discussion, the group expressed a preference for a meeting of technical experts (outside the LLG forum) before the work plans are finalized.

Barry Lawson, of Barry Lawson Associates, moderated the meeting. He welcomed the group and introduced John T. Driscoll, Chairman of the Massachusetts Turnpike Authority. Mr. Driscoll welcomed those attending and noted that the Authority is committed both to undertaking a thorough review of the environmental effects of the improvement program and to effective communication with affected communities. He said that the Authority had assembled a qualified team which will do the job correctly. He added that he is available to attend LLG meetings if members feel his attendance would prove useful.

Mr. Lawson then asked the group members to introduce themselves and speak briefly of their interest in the issues and their organizational affiliation.

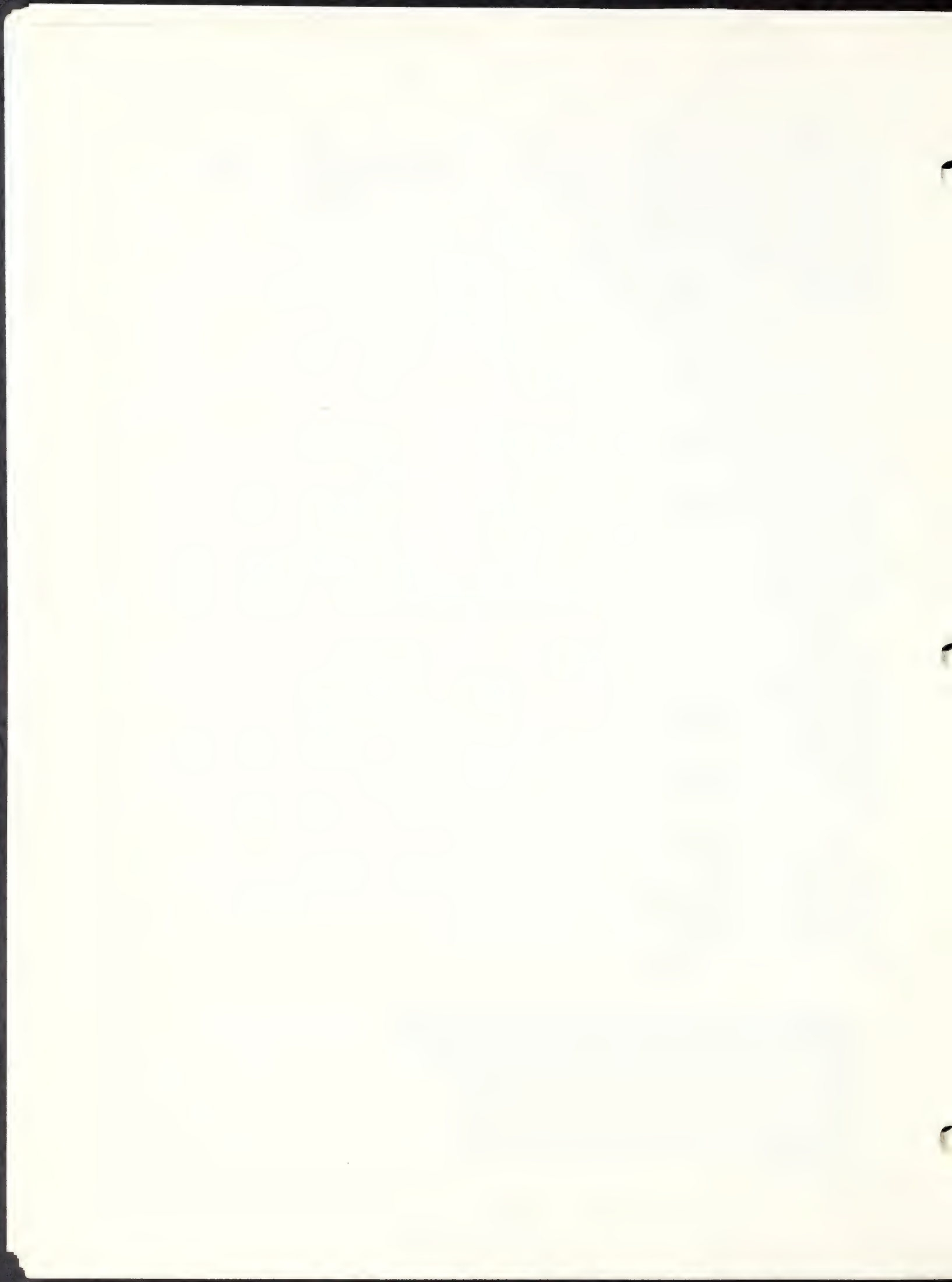
Gordon Slaney of Howard Needles Tammen & Bergendoff (HNTB), the Authority's consulting engineers, then introduced the technical team. Mr. Slaney listed the team of sub-consultants which has been assembled to assist with studies and analyses required for the EIR: Harris Miller Miller & Hanson (noise); Tech Environmental, Inc. (air quality); Jason M. Cortell & Associates (water quality and wetlands); Barry Lawson Associates, Inc. (community relations). In addition, traffic modeling work will be done by the Central Transportation Planning Staff (CTPS) of the Metropolitan Area Planning Council (MAPC). Mr. Slaney asked his staff to describe the project and the EIR schedule.

Gary Walsh briefly described the proposed program of improvements. He stated that five locations for the new barrier toll plaza will be studied. Joe Grilli discussed the status of the EIR and the schedule for its completion. He noted that workplans are now being prepared and will be mailed to the LLG on February 19th. Wetland areas have been delineated; water quality monitoring has begun and will continue through the spring. Mr. Grilli briefly reviewed the schedule (see attached), which calls for the release of the Draft EIR at the end of August 1987.

Mr. Lawson then reviewed the functions of the LLG: information (serving as a contact person for community residents for information on the project); consultation (giving input to the team on issues of concern); review of technical material (commenting on work plans, data, methodology and insuring that material is thorough and understandable).

The group then discussed the following issues:

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- o Alternative locations for barrier toll: HNTB staff explained that a preferred engineering alternative had originally been selected from among five locations. Engineers will now evaluate engineering feasibility and environmental impacts of these alternatives to establish the viability of each alternative location. Charles Gaffney requested that the group be shown the results of the analysis before alternatives are eliminated.
- o Noise impacts: Gordon Slaney indicated that noise will be evaluated as part of the EIR. If it is determined that operational sound creates environmental impacts, the EIR will suggest ways of mitigating such impacts.
- o Review of material by LLG: The group discussed the most effective way to review the project-generated technical material, considering the tight and compressed schedule. Mr. Lawson mentioned that the group might want to meet more frequently during some periods, or might want to hold workshops on topics of concern. George Wallace suggested that the group might want to break itself up into areas of expertise (e.g. noise, water quality, air). Jean Thurston said while breaking up into small groups might be useful, she wanted to stay involved in all aspects of the study.
- o Future meetings: The group discussed preferred meeting locations, times and dates. It was agreed that Wednesday is the most preferable meeting day, that the Weston engineering headquarters is an acceptable meeting location, and that the group would prefer to limit meetings to two hours. The group will meet monthly, but agreed to hold more frequent meetings if needed.
- o Other comments:
 - A request was made for LLG members to receive the ENF's and MEPA Scope. [BLA will provide binders to LLG members with this and other information.]
 - A request was made to keep a copy of the information repository in the Town Offices.
 - A clear distinction should be made between LLG members and the Authority.
 - Name tags should be worn at the next few meetings.
 - A copy of the Natick sodium report was submitted for distribution to the LLG members.

The next meeting of the Local Liaison Group will be held on Wednesday, March 4, 1987, at 3:00 p.m. at the Weston Engineering Offices. Technical subconsultants will be discussing the overall work plan for the EIR. Please contact Ann Jacobson at 369-4213 if you need any information about the meeting.

PROPOSED AGENDA

LOCAL LIAISON GROUP (LLG)

MASSACHUSETTS TURNPIKE AUTHORITY
Turnpike Improvement Program EIR

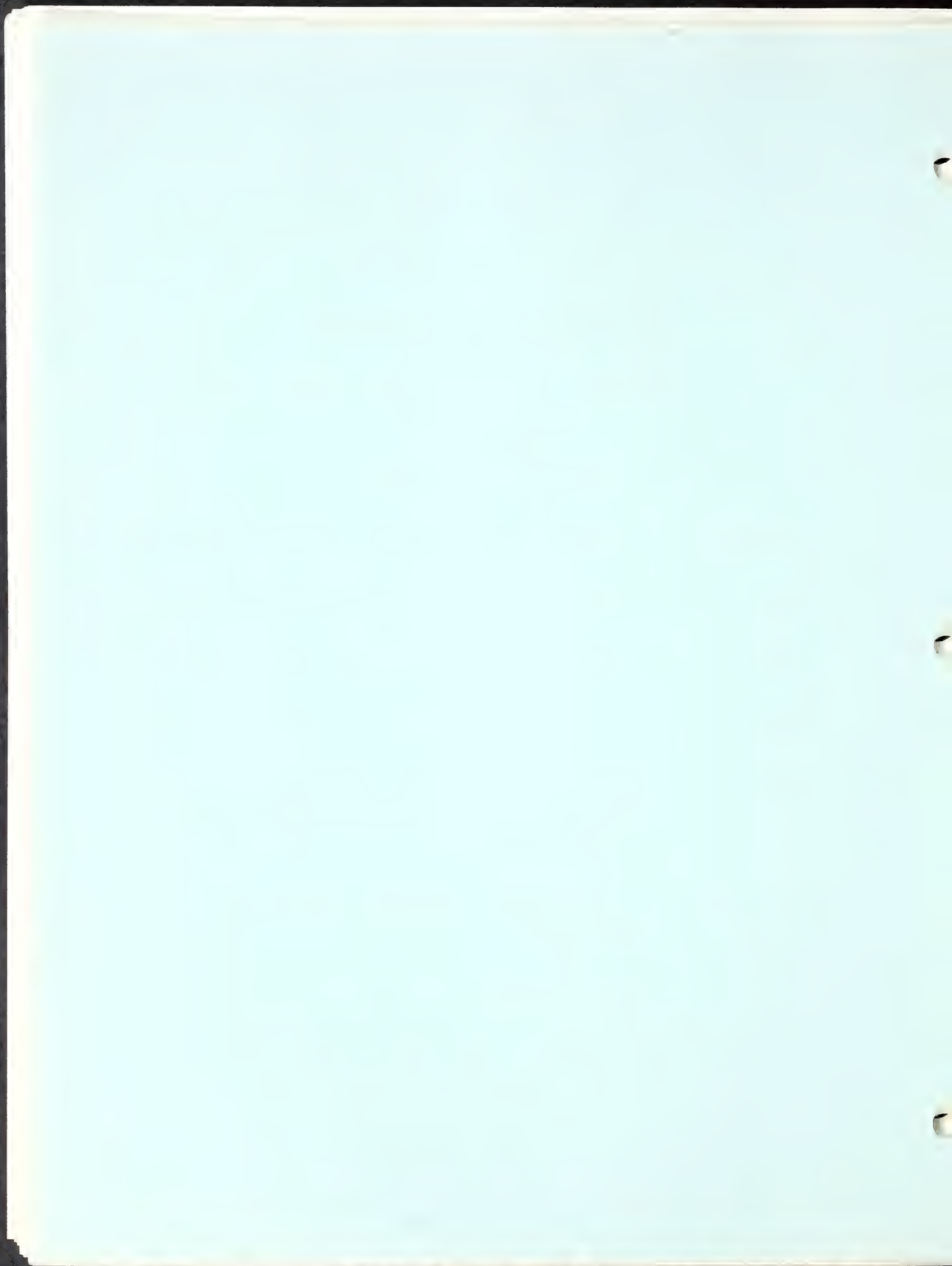
Authority's Weston Engineering Offices

January 29, 1987

4:00 p.m.

Barry R. Lawson, moderator

4:00 p.m.	Welcome -- John Driscoll, Authority Chairman
4:10	Introduction of Liaison Group Members
4:20	Introduction of Engineering and Community Relations Teams
4:30	Functions of the Local Liaison Group
4:45	General Discussion of Improvement Project EIR, including LLG member suggestions for future agenda items
5:15	Setting Place, Times and Dates for LLG Meetings
	Other Business
5:30	Adjourn



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

LOCAL LIAISON GROUP (LLG) - Meeting #3

MEETING NOTES

Date: April 8, 1987
Time: 3:30 p.m.
Place: Weston Engineering Headquarters

ATTENDANCE:

Local Liaison Group

Town of Framingham: Frederick S. Taintor; Fred W. Sergeant
Town of Natick: George Wallace; William P. Costello
Town of Southborough: Janice C. Conlin; Charles E. Gaffney
Town of Wayland: Theresa L. DiCicco
Town of Weston: Jean Thurston; Richard W. Albrecht

Other Officials and Members of the Public

Jane Adams, Worcester Telegram and Gazette
Don Cowles, Selectman, Westborough
Gregg M. Lasky, Middlesex News
Ted Ross, TAB (Framingham)
Ellie Stoddard, Southborough Planning Board

Massachusetts Turnpike Authority

Mel Crain, Chief Engineer

Consultants

Gordon Slaney, Partner, Howard Needles Tammen & Bergendoff (HNTB)
Joseph Grilli, EIR Project Manager, HNTB
Gary Walsh, Massachusetts Turnpike Project Manager, HNTB
Mary Beth Martin, EIR Coordinator, HNTB
Carlton Noyes, Vice President, Jason M. Cortell and Associates
Robert Terefenko, Hydrogeologist, Jason M. Cortell and Associates
Jeffrey Tarde, Environmental Scientist, Tech Environmental
Barry Lawson, President, Barry Lawson Associates
Ann Jacobson, Community Relations Manager, Barry Lawson Associates

Barry Lawson, of Barry Lawson Associates, moderated the meeting. He reviewed the agenda and asked for approval of the notes of the meeting held March 4, 1987. George Wallace noted that he had asked whether groundwater *sampling* rather than *modeling* would be done at Service Area 8E (p. 5). The correction was noted and the notes approved as corrected.

TECHNICAL WORK PLAN - SUMMARY OF PUBLIC COMMENTS AND RESPONSES:

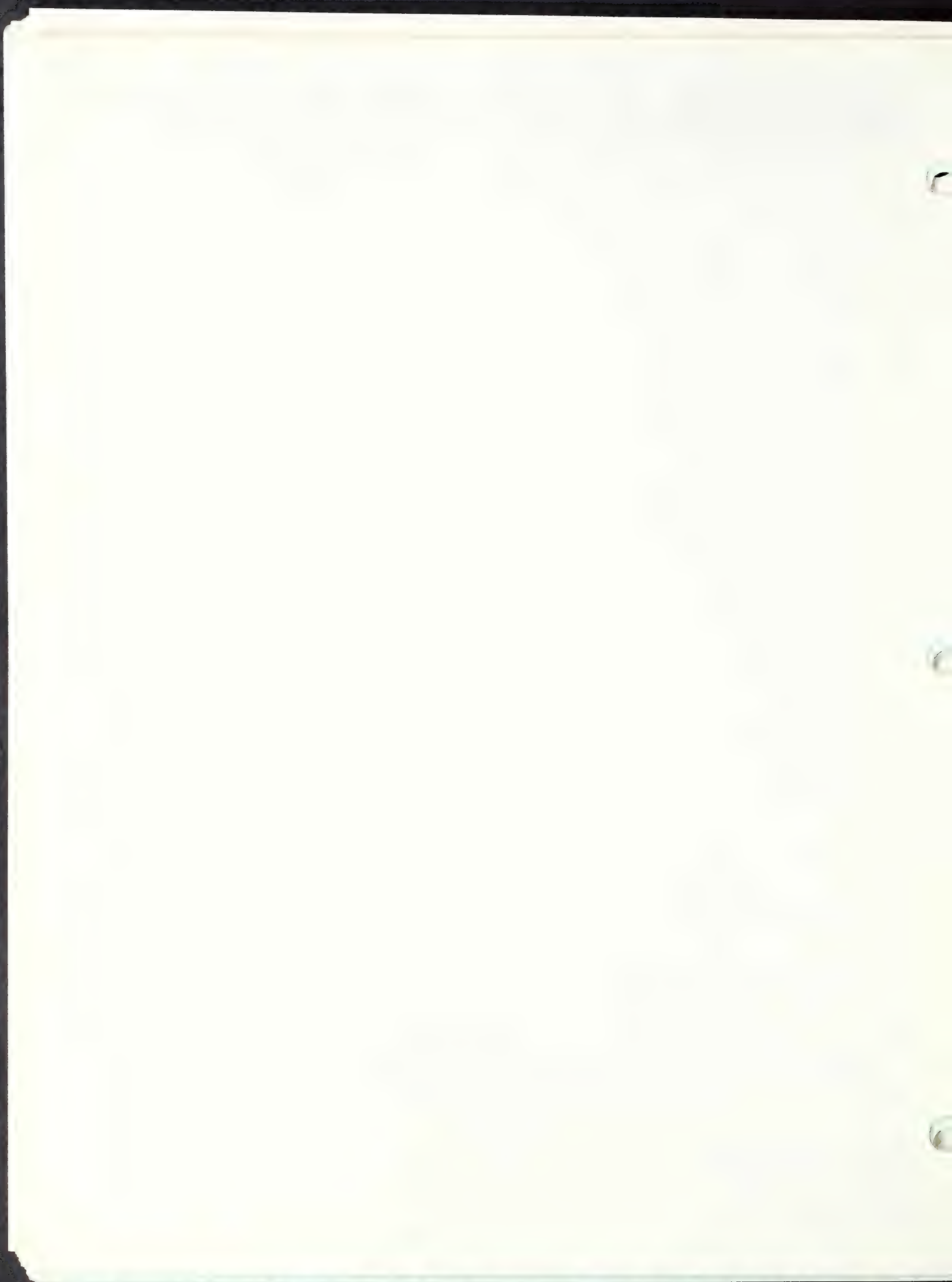
Additions to Work Plan

Joseph Grilli, HNTB

Mr. Grilli thanked the LLG for their valuable comments on the Work Plan, and noted that the Final Work Plan will be issued within two weeks. He listed the major changes, additions and clarifications to the Work Plan which were made as a result of the

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.



review process. He referred the group to the document entitled "Technical Work Plan, Summary of Public Comments and Responses, April 1987", for a complete list of questions, comments and responses.

Transportation

- o Expand demand forecasting model: use 164-town Eastern Massachusetts model.
- o Add streets/intersections to traffic analysis locations: Oak, Winter, Wellesley Streets (Weston); Route 9/Caldor Road (Framingham); Route 30/Route 9 (Westborough).
- o Usage and availability of public transit will be reviewed.

Air Quality

- o Turnpike Extension to be added to the mesoscale analysis.
- o Considering suggestions on sensitive receptors, and waiting for Weston's consultant's list of sites (received April 22)

Noise

- o Conduct literature review of typical noise levels in residential areas not near major noise sources.
- o Assess adverse effect of wind on effectiveness of noise barriers.
- o Conduct literature review and evaluation of snow plow noise emission.
- o Considering suggestions on sensitive receptors.

Ground/Surface Water

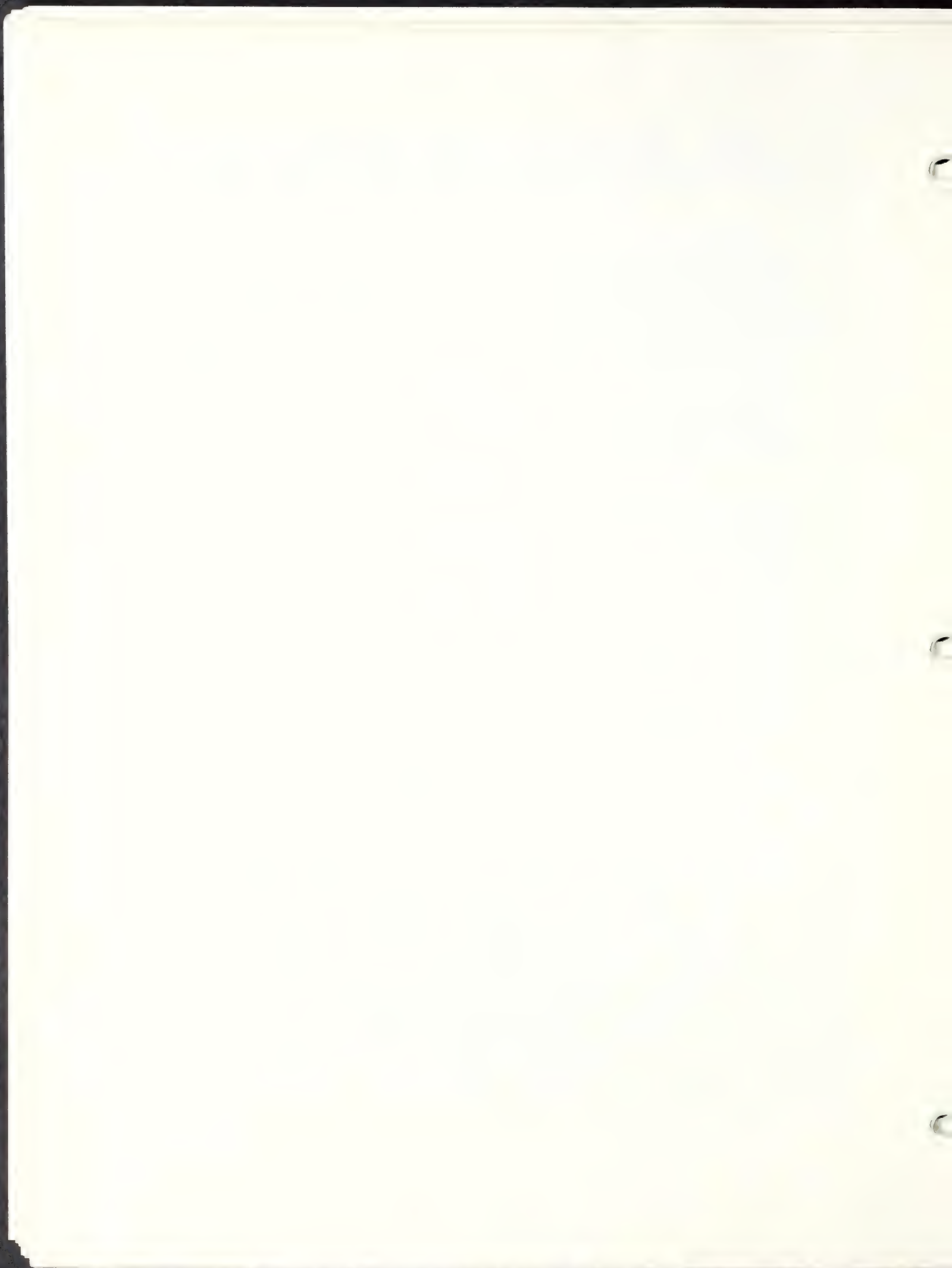
- o Conduct private well testing program
- o Include stream from Weston High School and MWRA Reservoir #3 in surface water sampling program.
- o Analyze impacts on Charles River.

Lighting

- o Evaluation of various lighting types.

Comments and Discussion Points

- o Frederick Taintor disagreed with the response given to his suggestion that the EIR include an analysis of the effect of the project on the Speen Street overpass. He said that the Authority cannot say it is not responsible for increased traffic on Speen Street as a result of the Improvement Program. In his view, an analysis of this issue should appear in the EIR because the Turnpike Authority is adding to a situation in which lack of capacity is already a problem. Mr. Grilli responded that the transportation analysis of the EIR will demonstrate the project's impact on Speen Street by comparing the Build and No Build alternatives. The analysis will include an evaluation of the adequacy of Speen Street to meet future traffic demand. (The Turnpike Authority will work with the Town of Framingham in regard to the Speen Street bridge design as part of the EIR.)



o George Wallace said that an Emergency Response Plan should be prepared as part of the EIR because such a plan is required before a permit can be granted under Natick's Aquifer Protection By-Law. Mel Crain responded that the State Police are responsible for such emergencies. The Turnpike Authority maintenance personnel assist the State Police. Mr. Crain agreed to consult the State Police to determine whether they follow a formal, written plan.

STATUS REPORT: Field Studies

Traffic - Joseph Grilli, HNTB

Mr. Grilli handed out a final list of traffic count locations. He said that traffic counts are being taken this week. HNTB will shortly be conducting its accident research. He explained that the list he had distributed represents only the counts done directly by HNTB; additional counts will be obtained from the state and local DPWs and updated. He noted that the data used in the EIR studies will be available for review at the Weston repository.

Lighting- Mary Beth Martin, HNTB

Ms. Martin said that an electrical engineer had done preliminary field work. He had collected information on existing background lighting and shielding at the three light study locations: Interchange 14 ramps; Service Area 8E; and at the barrier toll plaza site. The engineer will do additional site work when design of the facilities is further advanced.

Recreation - Mary Beth Martin, HNTB

The recreation inventory has been completed. The list of facilities within one mile of the work area has been doubled after consultations with local Conservation, Recreation and Planning Departments. This list will be screened in the next phase prior to more detailed evaluation.

Historic and Archaeological - Mary Beth Martin, HNTB

HNTB has developed a background study of the Thomas Pierce House and Barn. Planners collected information on baseline conditions by meeting with the Massachusetts Historical Commission and contacting local individuals.

The archaeological study of the barrier toll location will be starting in May. The Public Archaeology Laboratory will be conducting the survey and has been obtaining the necessary permits to begin.

Water Supply/Water Quality - Carlton Noyes, Jason M. Cortell & Associates

Mr. Noyes briefly reviewed the surface water sampling program which began last November. He noted that, to date, the highest recorded sodium and chloride levels were on February 11, 1987. For example, chloride levels were recorded as 37 mg/l in Snake Brook and 163 mg/l in Nonesuch Pond; sodium at 19 mg/l in Snake Brook and 84 mg/l in Nonesuch Pond. In response to a question from Mr. Lawson on applicable standards, he said that the state drinking water standard is 20 mg/l for sodium although many states set a higher limit. The standard for chloride is 250 mg/l. Mr. Noyes added that the sampling period had been extended until June to see when parameters peak or level off.

Mr. Noyes then discussed work being undertaken to study impacts on water supplies. He said that his firm had coordinated with the engineering departments of Natick and Weston and had reviewed information on two commercial wells in Westborough. The study will also include an analysis of impacts on private wells.

PRIVATE WELL SAMPLING PROGRAM

Carlton Noyes, Jason M. Cortell and Associates

Mr. Noyes then continued his presentation with a description of the private well study program. He explained that the firm is now completing an inventory of private wells within one-half mile of the Turnpike and has identified 107. Following completion of the inventory, Mr. Noyes explained that his firm will be testing twenty to twenty-four "representative" wells for sodium and chloride levels. Before implementing the program, it will be reviewed with DEQE and consultants for the town of Weston. He discussed with the group how best to solicit homeowners to volunteer for the well testing program, which he said he wanted to begin within two weeks. It was agreed that this would be determined on a town-by-town basis after the meeting.

Comments and Discussion Points

o Mr. Albrecht asked why all wells were not being tested and Mr. Noyes responded that a representative well or wells would be chosen from each "cluster". Impacts are unlikely to vary significantly within clusters.

o Mr. Gaffney asked to what degree wells would be tested and Mr. Noyes explained that one sample would be collected and analyzed for sodium and chloride; a second sample might be taken if considered necessary.

o Mr. Wallace asked when the firm would be analyzing the groundwater flow net pattern, which he called critical to the interpretation of well sampling data. Mr. Noyes said that would

be done within the next two weeks while he was identifying volunteers for the well sampling program.

BARRIER TOLL PLAZA SITE SCREENING

Joseph Grilli, HNTB

Mr. Grilli distributed two handouts outlining the approach and results of the screening process used to compare the preferred ("ENF") site with six other possible sites located between Interchanges 11A and 12. He listed the site screening criteria: neighborhood impacts; impact on the natural environment; safety; and engineering suitability. Mr. Grilli then reviewed the site screening criteria grading system and the matrix which compares the scores of each site by criteria. He gave a site-by-site explanation of the rationale for the rating. (See attached handouts)

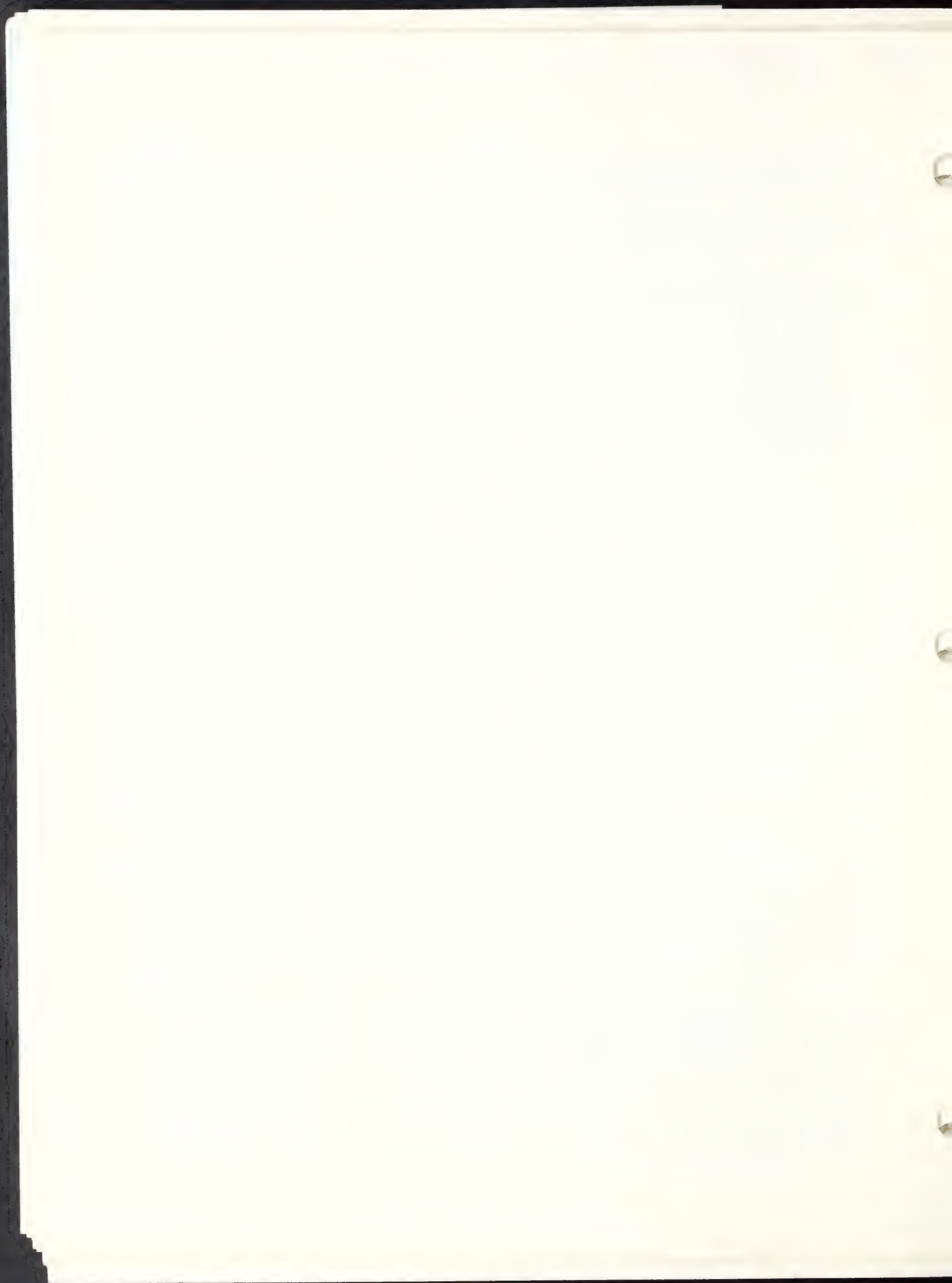
Mr. Grilli concluded by saying that the screening process reveals that no other site is so suitable for the barrier toll facility. Therefore, only the preferred site will be carried forward for full analysis in the EIR.

Comments and Discussion Points

o Mr. Gaffney asked whether the estimated amount of land taking is still six acres and where access to the plaza would be located. He asked whether the access driveway could be eliminated. Mr. Grilli noted that the center line of the plaza had been moved approximately three hundred feet to the west of the site proposed in the ENF last year. Access would be from Flanders Road. Mr. Walsh added that the land taking would be somewhat greater than 6 acres and that it has still not been decided whether the access road would be on the north or south side of the Turnpike. Mr. Grilli said that Turnpike operations require a driveway for safety reasons.

o The group discussed the impact of the large "9/90" office complex planned for the Framingham/Southborough line. Mr. Gaffney expressed his strong feeling that the Turnpike Improvement Program should be coordinated with this project, perhaps by moving the barrier toll to that location. Mr. Grilli explained the rationale for the system proposed in the ENF and said that conditions in the area would be improved by the proposed removal of toll booths in one direction at Interchange 12.

Mr. Taintor discussed his interpretation of the context in which Mr. Gaffney's comments should be taken. He said that the Turnpike Improvement Program aims to alleviate off-Turnpike traffic congestion by reducing congestion on the Turnpike; at the same time, the 9/90 project will greatly increase local traffic. He pointed out that it seems as if the Turnpike project had been defined and limited before the 9/90 project was conceived, and there appeared to be little likelihood that the project could be changed now to incorporate the 9/90 project. He also noted that



9/90 developers have said that the Turnpike Authority would not allow them to tie into the Turnpike. Mr. Crain said that, to his knowledge, the developers have made no proposal to the Authority to build a connector road with the Turnpike. Mr. Grilli added that construction of the proposed work at Interchange 12 would not preclude future capacity improvements at the Interchange.

OTHER BUSINESS

o George Wallace expressed concern about the bill being considered in the legislature to mandate noise barriers in communities affected by the Turnpike. He said he did not want one issue to supersede others in the EIR process. Mr. Grilli assured him that the EIR will continue as planned. Ms. DiCicco explained that the bill resulted from a meeting of the Noise Barrier Group with legislators in October. She recognized and appreciated the efforts of legislators but agreed that it is important that the action not run contrary to the EIR process. Mr. Costello gave the reasons for the action and said its main purpose is to put pressure on the Authority to recognize its responsibilities to those living near the Turnpike.

o Mr. Gaffney invited LLG members to attend a meeting with developers of the 9/90 project on April 9, 1987 at the Southborough Town Hall.

o The next meeting of the LLG was set for **Wednesday, May 6, 1987 at 3:30 p.m.**

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

MASSACHUSETTS TURNPIKE AUTHORITY EIR

Barrier Toll 11A/12 Site Screening

PURPOSE

To evaluate the feasibility of alternative sites for the proposed barrier toll plaza between Interchanges 11A and 12

APPROACH

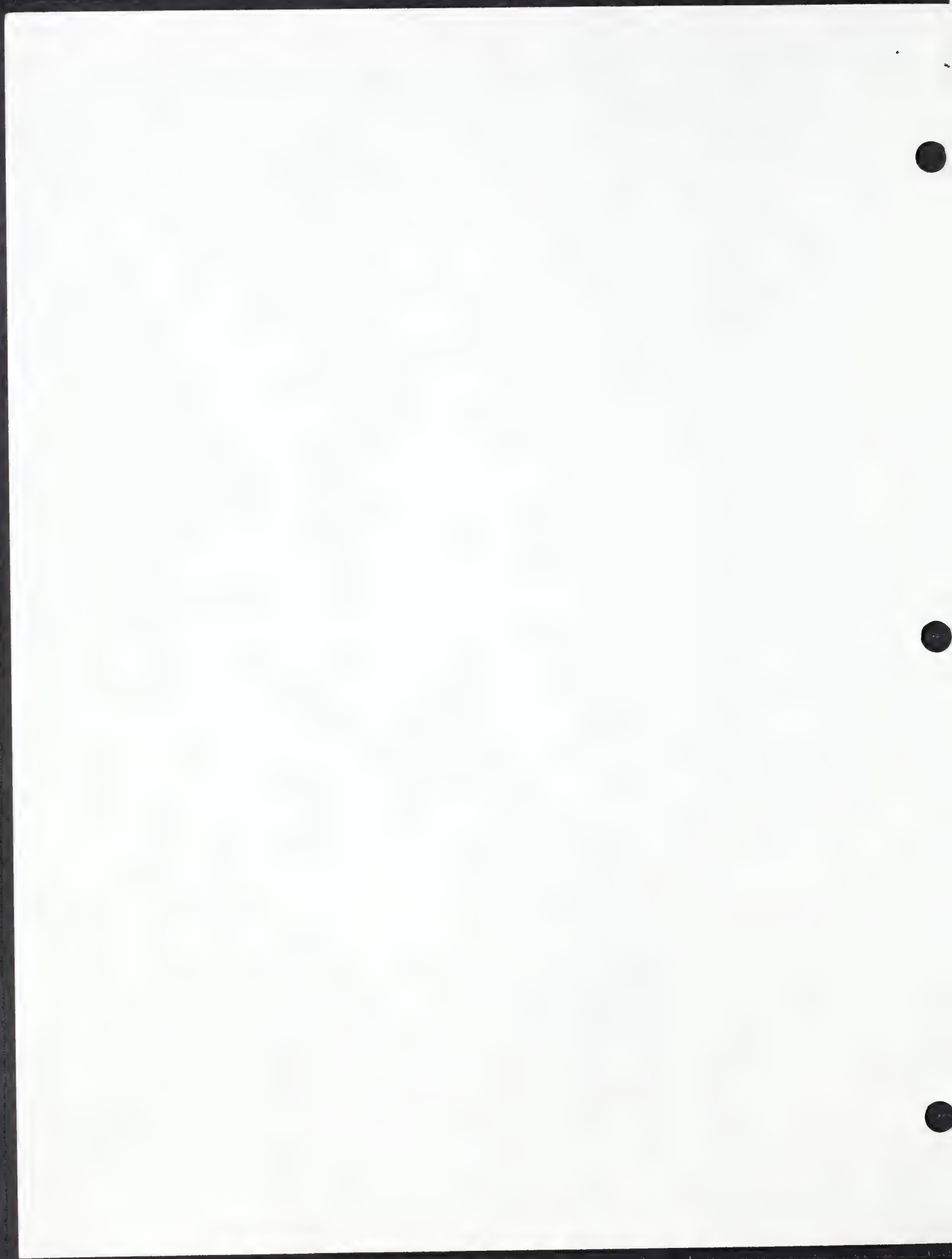
1. Identify sites that meet minimal engineering standards.
2. Collect applicable data on:
 - availability of utilities
 - land use
 - community issues
 - natural features
3. Apply site screening criteria (see below)
4. Determine if a site is suitable for detailed evaluation and comparison with Westborough/Southborough town line site proposed in the ENF.

SITE SCREENING CRITERIA

1. Neighborhood Impacts
 - maximize distance to residences and other sensitive land uses
 - minimize acquisition of residences
2. Impacts on the Natural Environment
 - minimize unavoidable alteration of natural resources
3. Safety
 - maximize safety for Turnpike patrons
 - maximize safety for users of local roads
4. Engineering Suitability
 - sight distance
 - grade
 - utility availability
 - structural or site work

TOLL PLAZA DESIGN FEATURES

1. 15 lanes across Turnpike mainline; extends 100-150 feet north and south from median at the plaza (approximately triples the existing pavement width)
2. Road tapers from east and west to the toll booth area starting 1,100 to 1,600 feet away
3. 65-foot x 35-foot utility building
4. Employee parking lot



HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

MASSACHUSETTS TURNPIKE AUTHORITY EIR

BARRIER TOLL 11A/12

SITE SCREENING CRITERIA MATRIX

<u>CRITERIA</u>	<u>SITE</u>						<u>ENF SITE</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	
NEIGHBORHOOD IMPACTS	1	2	0	1	0	2	2
IMPACTS ON THE NATURAL ENVIRONMENT	0	0	2	1	2	0	1
SAFETY	2	1	1	1	1	0	2
ENGINEERING SUITABILITY	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>
TOTAL	4	3	3	3	3	2	7

Criteria Grading

2 = Acceptable
1 = Marginally Acceptable
0 = Unacceptable

MMISC3/32

WESTBOROUGH

01581

MASSACHUSETTS TURNPIKE AUTHORITY

Environmental Impact Report on
Proposed 1988 Improvements

Barrier Toll 11A/12
Site Screening

ALTERNATIVES FOR EVALUATION

SITE 5
Mile 108.1

SITE 4
Mile 108.6

SITE 3
Mile 109.2

SITE 2
Mile 109.6

SITE 1
Mile 110

SITE 6
Mile 106.8

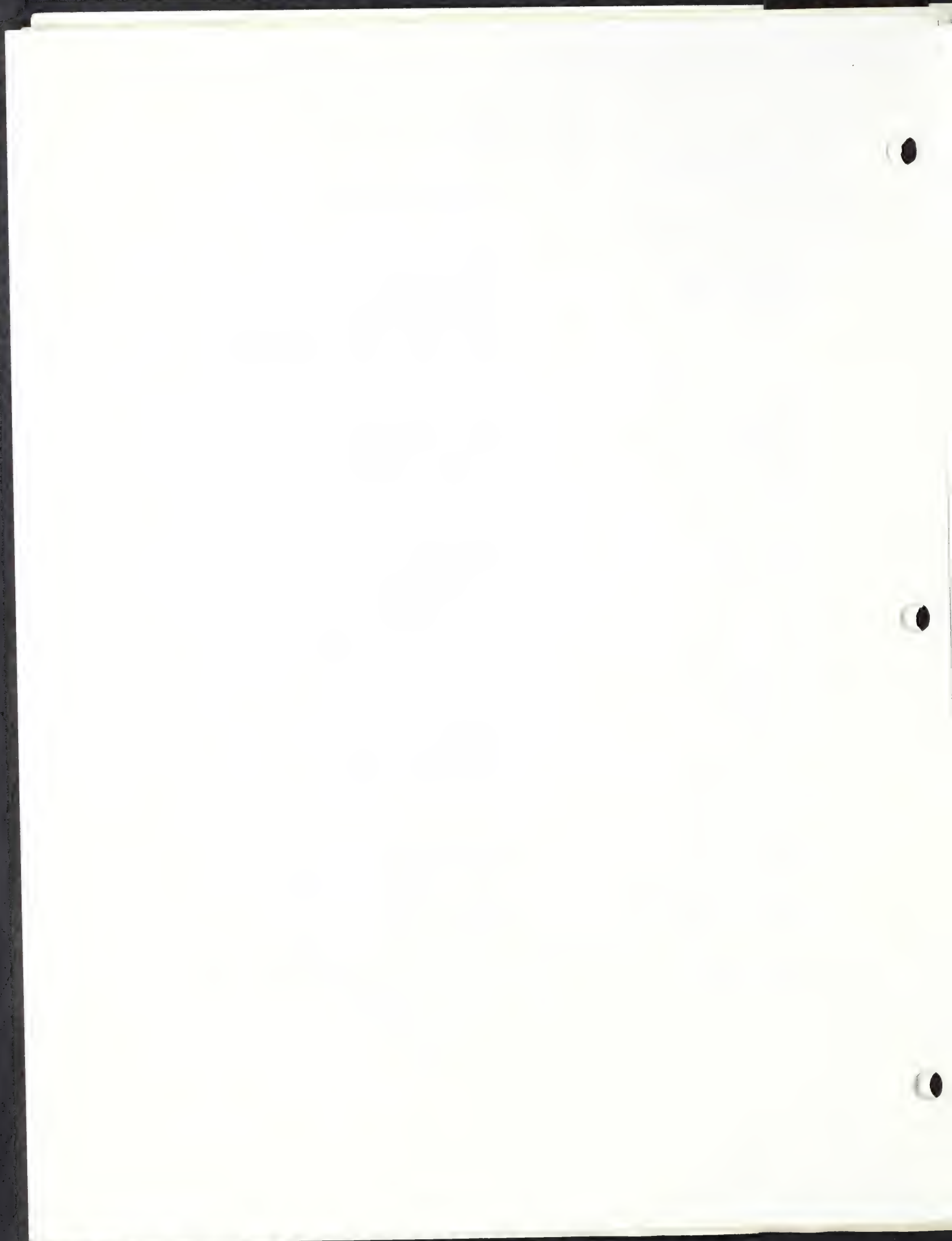
Site
From ENF

ASHLANT

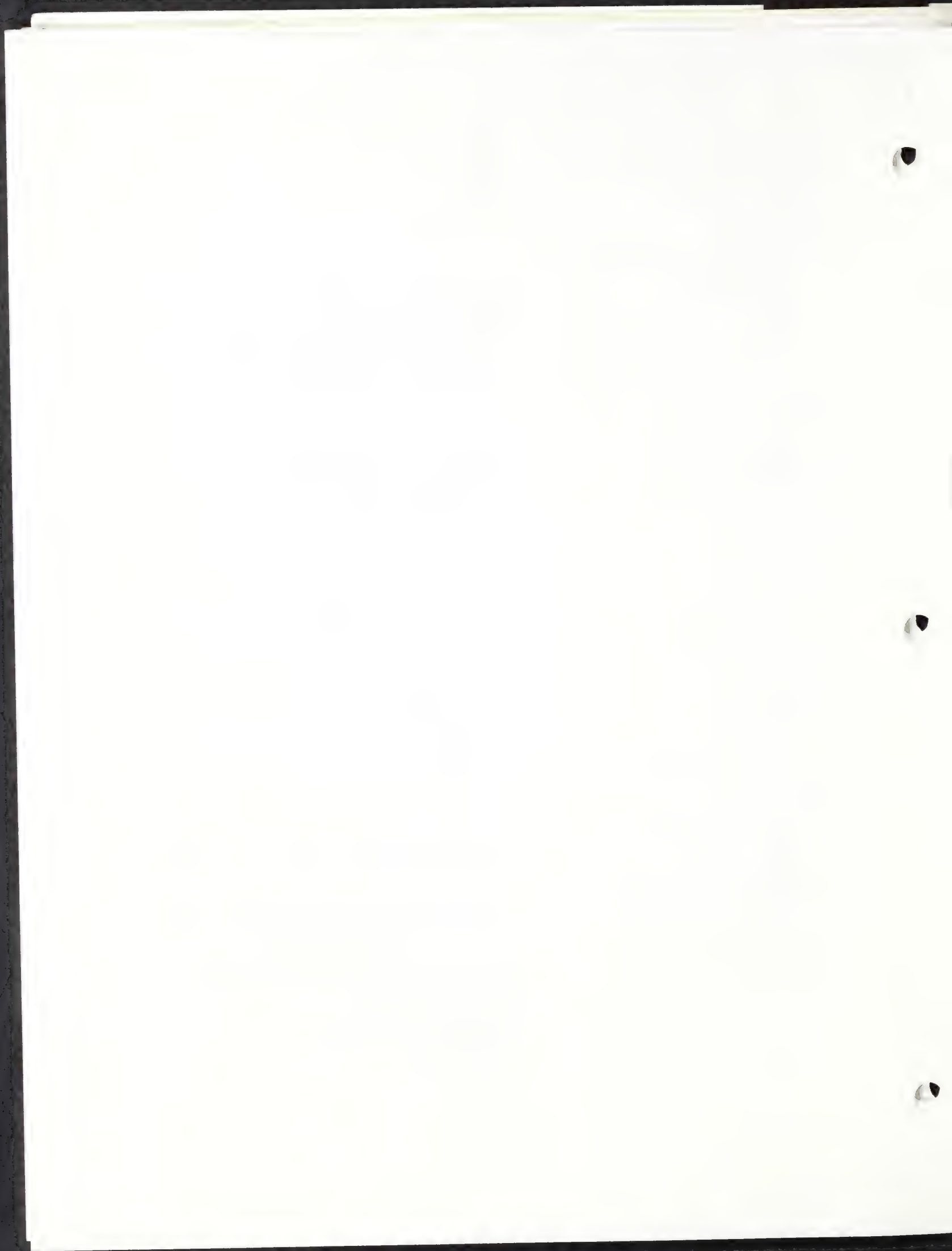
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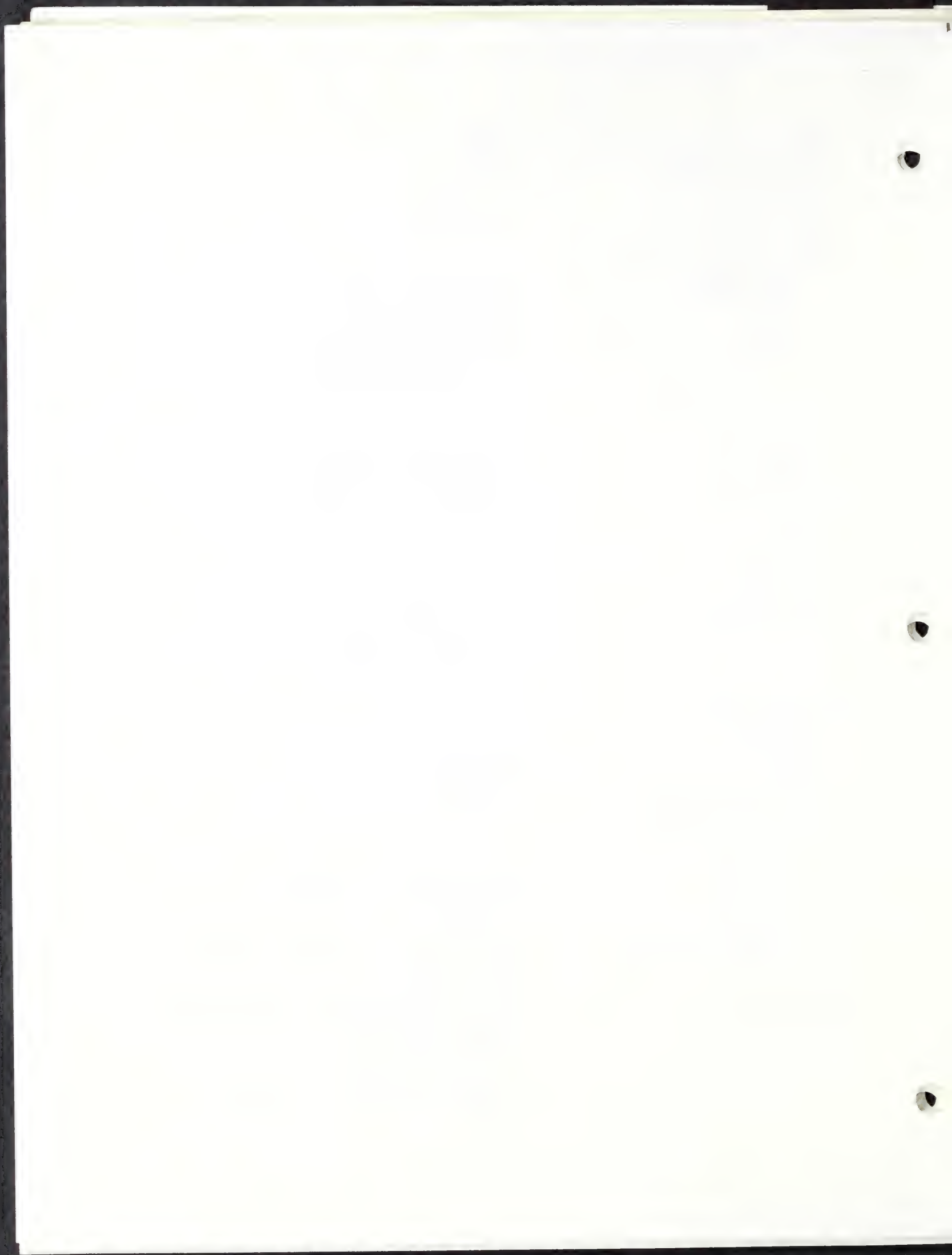
ITEM	SITE 1
Location/Mile Marker	110
Municipality	Southborough (Ashland)
Highway Design Suitability	
Sight Distance	Acceptable, to east and west
Profile Grade	2%+ to crest
Access	Walnut Drive & Vine Street - Poor Oak Street, 900 ft. to east - Good
Comments	May require widening abutments for Oak Hill Road overpass
Utilities	
Electric	Available at Walnut Drive & Vine Street
Sewer	Septic system required - soils good
Water	Available in Walnut Drive
Land use	
On-Site	N: wooded S: wooded
Surrounding	N: wooded/wetland/residential; 3 houses w/in 500 ft. S: wooded/residential; 2 houses w/in 500 ft. N&S: approx. 50 houses w/in 1/4 mi.
Community Issues	
Ownership	Town
Zoning	Residential
Plans	Designated conservation/passive recreation area
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	No known streams or ponds in area; small forested wetland on north side
Protected Resources/ Regulatory Controls	Town-owned conservation land; archaeologically sensitive
Recommendations	Eliminate from further consideration: - conservation land - many homes nearby



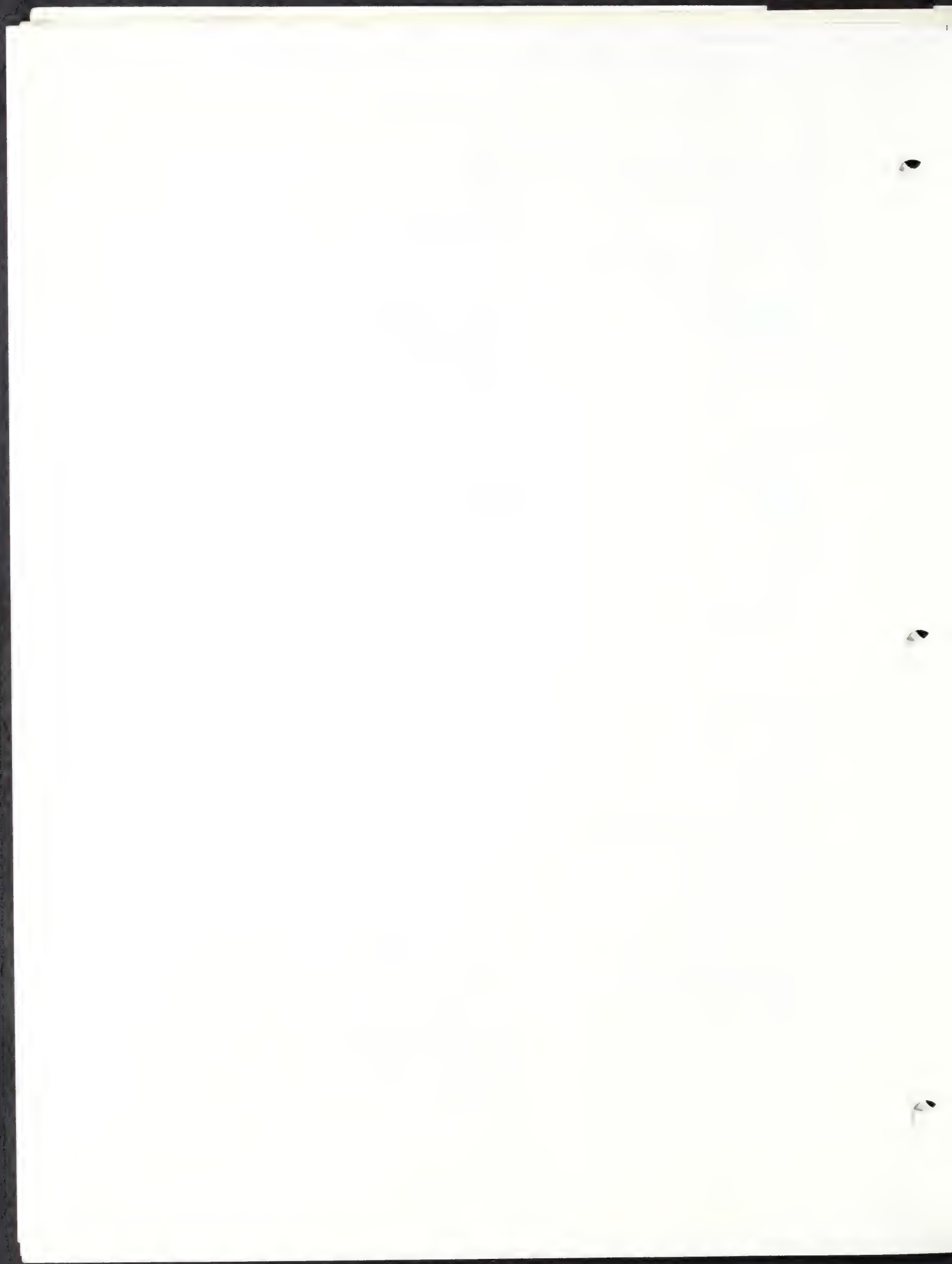
ITEM	SITE 2
Location/Mile Marker	109.6
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	2%+ to low point
Access	Woodland Road, 900 ft. to west - poor Oregon Road, 750 ft. to south - poor
Comments	Requires extensive filling to match existing highway grade
Utilities	
Electric	Available at Oregon Road
Sewer	Septic system required - soils poor
Water	Available at corner of Oregon and Edgewood Roads
Land use	
On-Site	N: wooded S: wooded/wetland
Surrounding	N&S: wooded/wetland; 0 houses w/in 500 ft.; 8 houses w/in approx. 1/4 mi.
Community Issues	
Ownership	Town (majority)
Zoning	Residential
Plans	Majority is designated conservation/ passive recreation area
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Small streams, large forested wetland on south side
Protected Resources/ Regulatory Controls	Town-owned conservation land; wetland; archaeologically sensitive
Recommendations	Eliminate from further consideration: - poor access - downgrade hazard - conservation land - extensive filling - utilities



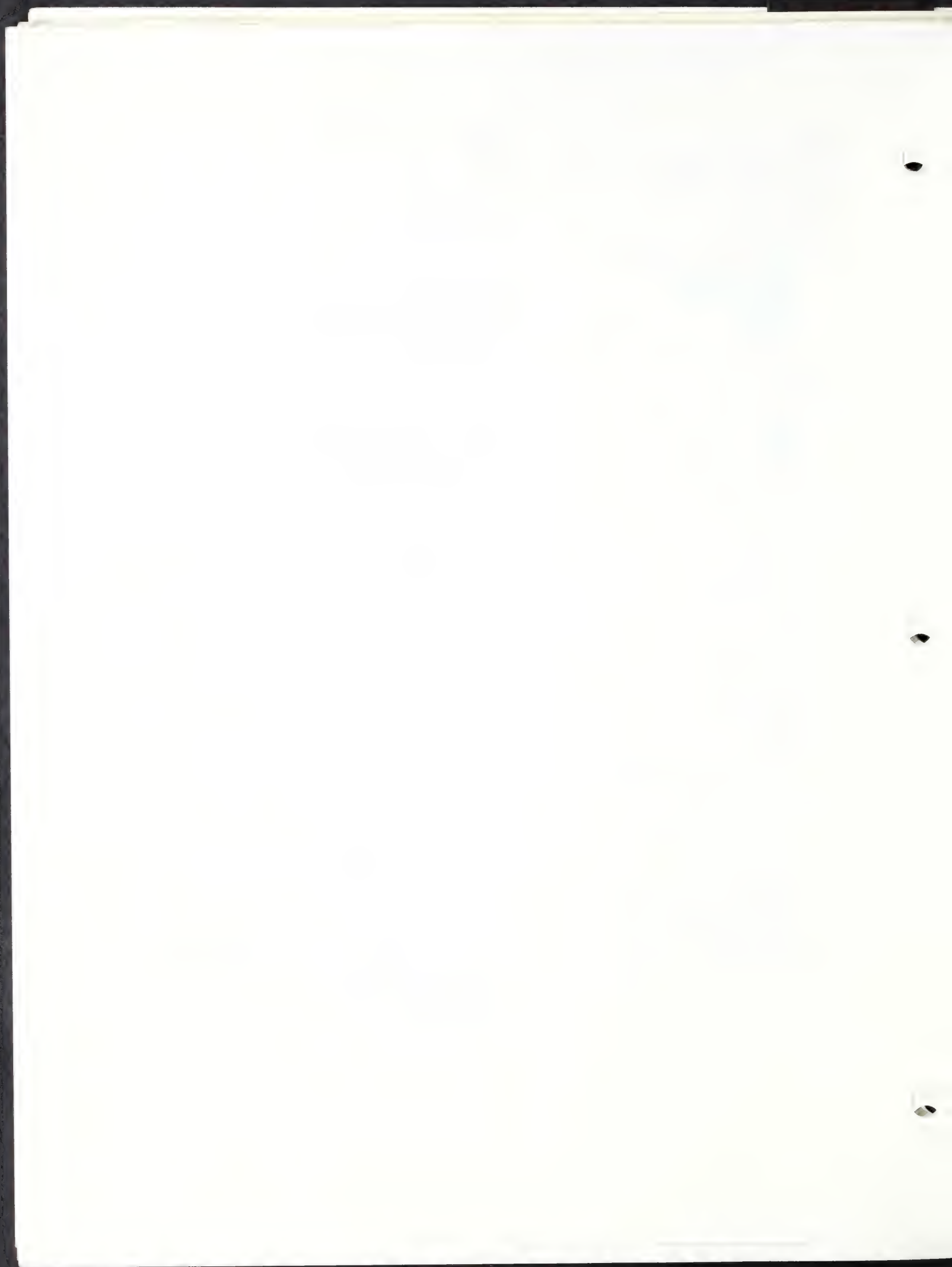
ITEM	SITE 3
Location/Mile Marker	109.2
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	1%+ to crest
Access	Breakneck Hill/Woodland Roads - poor Oregon/Edgewood Roads - Poor
Comments	Requires building part of plaza on bridge structure; conflicts with Turnpike access to Police Barracks
Utilities	
Electric	Available at Breakneck Hill & Woodland Road
Sewer	Septic system required - soils good
Water	Available in Breakneck Hill & Woodland Roads
Land use	
On-Site	N: local roads, police barracks S: local roads
Surrounding	N: residential; 1 house w/in 500' S: residential; 8 houses w/in 500' N&S: approx. 40 houses & 1 school w/in 1/4 mi.
Community Issues	
Ownership	Private/Turnpike Authority
Zoning	Residential
Plans	Proposed 5-lot subdivision off Breakneck Hill Road, north of site
Residence Acquisitions	May require taking up to 5 houses
Natural Features	
Terrestrial	Grassed lawns; scattered trees
Aquatic	Sudbury River tributary in western portion of site
Protected Resources/ Regulatory Controls	Archaeologically sensitive (appears disturbed)
Recommendations	Eliminate from further consideration: - taking of houses - many homes nearby - poor access - plaza on structure - proximity to Police Barracks



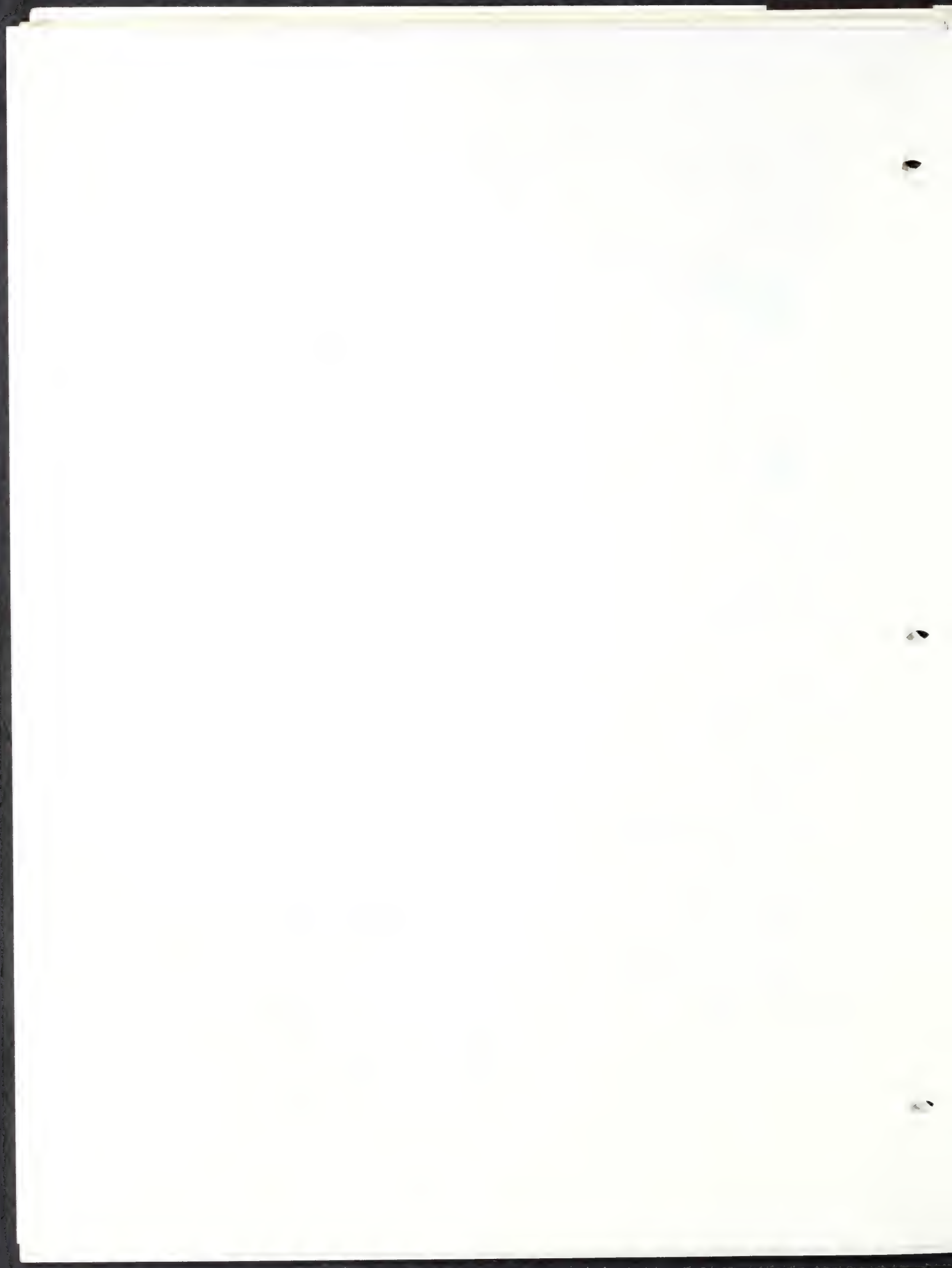
ITEM	SITE 4
Location/Mile Marker	108.6
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Acceptable, to east & west
Profile Grade	2%+ to low point
Access	Cordaville Road, 300 ft. to east - very good
Comments	Requires widening bridge over Cordaville Road; requires extensive filling to match existing highway grade
Utilities	
Electric	Available at Cordaville & Rock Point Roads
Sewer	Septic system required - soils poor
Water	Available in Cordaville & Rock Point Roads
Land use	
On-Site	N: wooded/wetland S: wooded/wetland
Surrounding	N: wooded/wetland; 0 houses w/in 500 ft. S: wooded/wetland; 0 houses w/in 500 ft. N&S: approx. 30 houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential
Plans	Town has no specific plans; no known development proposals
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Large forested wetlands associated with Sudbury River tributary on north & south sides
Protected Resources/ Regulatory Controls	Wetland; archaeologically sensitive
Recommendations	Eliminate from further consideration: - downgrade hazard - many homes nearby - extensive filling, bridge widening - utilities



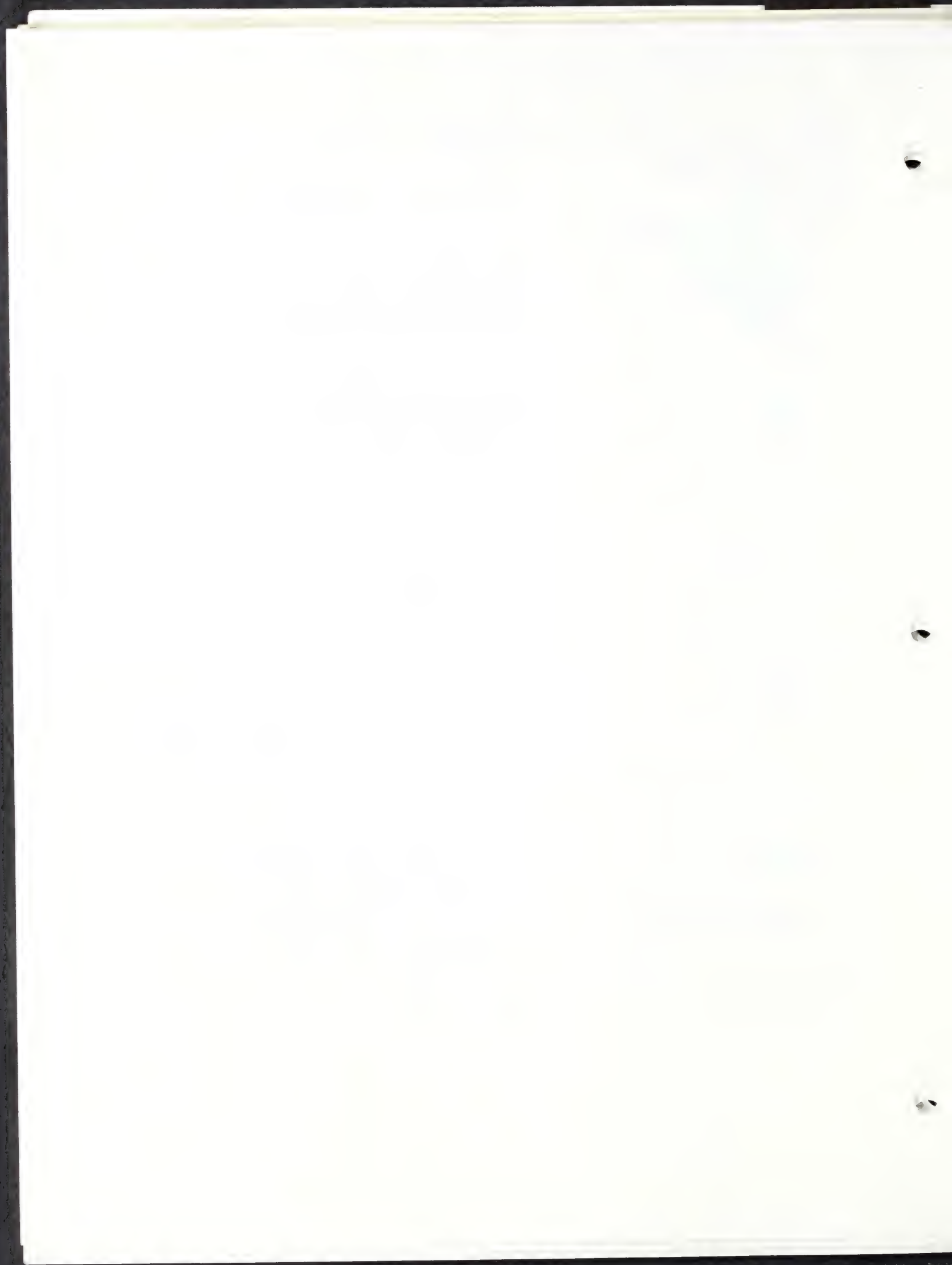
ITEM	SITE 5
Location/Mile Marker	108.1
Municipality	Southborough
Highway Design Suitability	
Sight Distance	Very good, to east & west
Profile Grade	2%+ to crest
Access	Gilmore & Parkerville Roads - Poor
Comments	Requires building part of plaza on bridge structure
Utilities	
Electric	Available at Gilmore & Parkerville Roads
Sewer	Septic system required - soils good
Water	Available in Gilmore, Parkerville & Richards Roads
Land use	
On-Site	N: residential S: residential
Surrounding	N: residential; 9 houses w/in 500' S: residential; 4 houses w/in 500' N&S: approx. 40 houses & 1 school w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential
Plans	Proposed 172-unit affordable housing development on south side
Residence Acquisitions	May require taking up to 7 houses
Natural Features	
Terrestrial	Rock outcrop, grassed lawns, scattered deciduous/coniferous trees in yards
Aquatic	No known streams or ponds in area
Protected Resources/ Regulatory Controls	Archaeologically sensitive
Recommendations	Eliminate from further consideration: - taking of houses - many homes nearby - poor access - plaza on structure



ITEM	SITE 6
Location/Mile Marker	106.8
Municipality	Westborough (Hopkinton)
Highway Design Suitability	
Sight Distance	Fair, to east & west
Profile Grade	2%+ to crest
Access	Flanders Road, 1400 ft. to east through Great Cedar Swamp - good
Comments	Route 495 ramps conflict with required toll plaza road tapers; requires building plaza on bridge structure
Utilities	
Electric	Available at Flanders Road & Walkup Drive
Sewer	Sewer expected to be available in Flanders Road by Sept. 1988
Water	Available in Flanders Road and Walkup Drive
Land use	
On-Site	N: railroad, industrial
Surrounding	S: railroad, open space N: industrial, transportation, open space (Great Cedar Swamp) S: Open space (Great Cedar Swamp) N&S: no houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Industrial
Plans	Designated conservation area; town has no specific plans; no known development proposals
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Deciduous forest
Aquatic	Extensive forested wetland associated with Sudbury River headwaters
Protected Resources/ Regulatory Controls	Designated ACEC; archaeologically sensitive
Recommendations	Eliminate from further consideration: - extensiveness of impact on Great Cedar Swamp - plaza on structure - proximity to I-495 ramps - sight distance



ITEM	ENF SITE
Location/Mile Marker	107.6
Municipality	Westborough (Southborough)
Highway Design Suitability	
Sight Distance	Very good, to east & west
Profile Grade	1%+ to crest
Access	Flanders Road, 1400 ft. to west - good
Comments	No special design issues
Utilities	
Electric	Available at Gilmore & Flanders Roads
Sewer	Sewer expected to be available in Flanders Road by Sept. 1988
Water	Available in Flanders Road at Turnpike bridge
Land use	
On-Site	N: wooded S: wooded
Surrounding	N: wooded/wetland S: wooded/wetland N&S: 3 houses w/in 1/4 mi.
Community Issues	
Ownership	Private
Zoning	Residential/Industrial
Plans	No known development proposals for site; proposed 172-unit affordable housing development at eastern end of site on south side
Residence Acquisitions	None appear necessary
Natural Features	
Terrestrial	Rock outcrops, deciduous forest
Aquatic	Wetlands associated with Sudbury River on north and south sides
Protected Resources/ Regulatory Controls	Wetland; archaeologically sensitive; Species of Special Concern reported in vicinity
Recommendations	Carry to EIR



HNTB

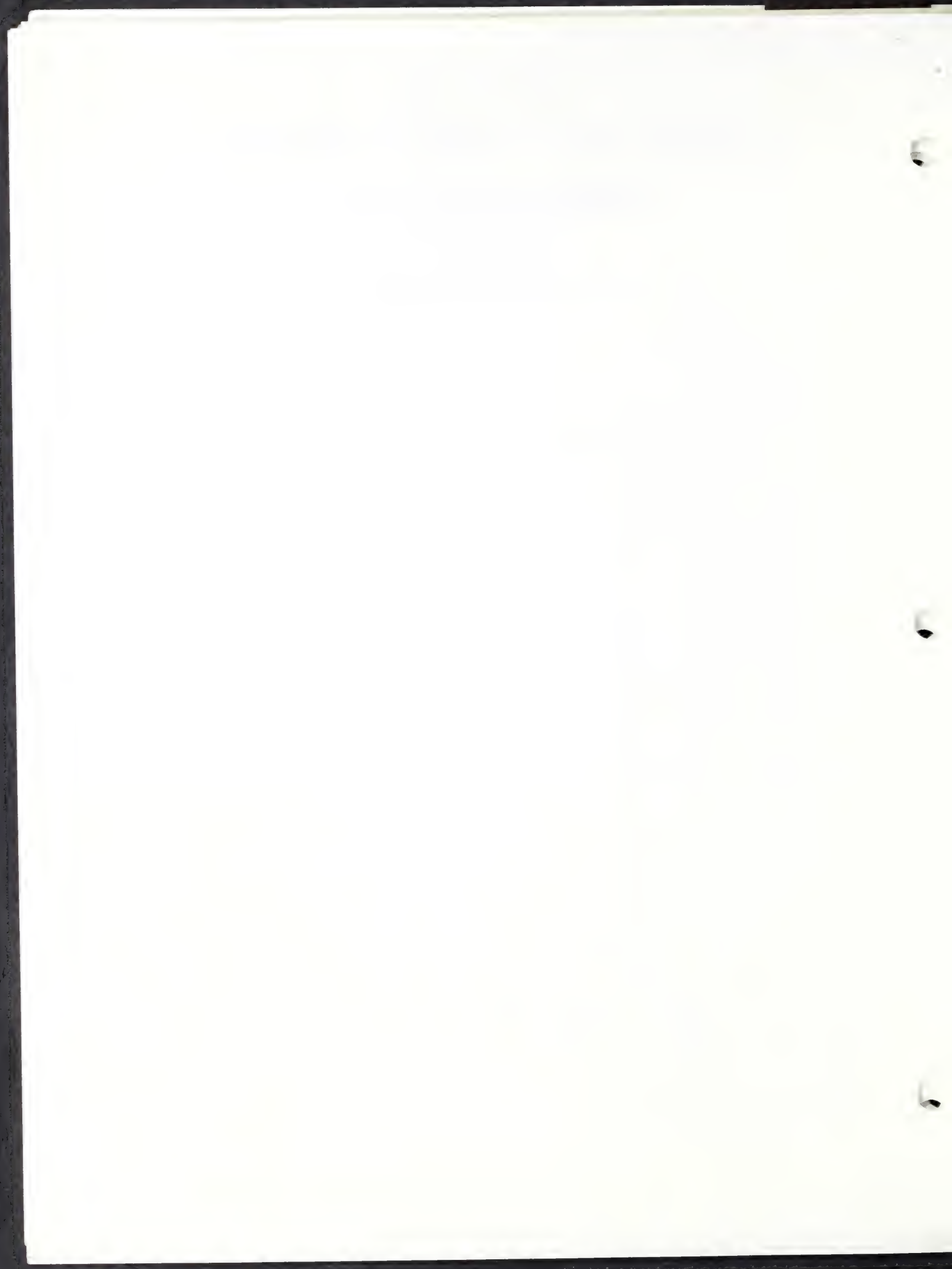
HOWARD NEEDLES TAMMEN & BERGENDOFF

MASSACHUSETTS TURNPIKE AUTHORITY ENVIRONMENTAL IMPACT REPORT FOR THE 1988 IMPROVEMENT PROGRAM

TRAFFIC COUNTS

48-HOUR CONTINUOUS COUNTS

1. Route 126, Wayland
2. Route 27, Sudbury
3. Route 20, Marlborough
4. Route 135, Framingham/Ashland Town Line
5. Landham Road, Sudbury
6. Mass. Turnpike, Interchange 14
7. Mass. Turnpike, Interchange 13
8. Mass. Turnpike, Interchange 12
9. Mass. Turnpike, Interchange 11A
10. Mass. Turnpike, Mainline - Natick to Weston
11. Mass. Turnpike, Mainline - Westborough/Southborough
12. Route 85, Marlborough/Hudson Town Line
13. Edgel Road, Framingham
14. Flanders Road, Southborough
15. Route 126, Framingham
16. Route 135, Wellesley
17. Route 135, Natick
18. Union Avenue, Framingham
19. Speen Street, Natick
20. Route 20, Weston/Wayland Town Line
21. Route 27, Wayland
22. Route 30, Wayland
23. Route 30, Weston



MASSACHUSETTS TURNPIKE AUTHORITY
ENVIRONMENTAL IMPACT REPORT FOR THE
1988 IMPROVEMENT PROGRAM

TRAFFIC COUNTS

48-HOUR CONTINUOUS COUNTS

24. Weston Road, Weston
25. I495/Route 9 Ramps
26. I495/Route 20 Ramps
27. Route 16, Wellesley
28. Route 30, Southborough
29. Route 9, Framingham
30. Route 9, Framingham/Natick Town Line
31. Route 9, Natick
32. Route 9, Wellesley (1)
33. Route 9, Wellesley (2)
34. Route 9, Southborough

MMISC3/42

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

TURNING MOVEMENT/VEHICLE CLASSIFICATION COUNTS

1. Route 20 at Route 27
2. Route 30 at Route 9
3. Route 126 at Route 135
4. Route 9 at Route 85
5. Route 20 at Nobscot Road
6. Route 30 at Newton Street 12 hour
7. Route 30 at Park Road 12 hour
8. Route 30 at Route 27 12 hour
9. Route 126 at Route 27
10. Route 9 at Speen Street
11. Route 135 at Route 16
12. Route 135 at Route 27
13. Route 16 at Route 9
14. Route 9 at Route 27
15. Route 135 at Speen Street
16. Route 126 at Route 9
17. Route 30 at Shoppers World 12 hour
18. Route 126 at Route 30 12 hour
19. Route 9 at Caldor
20. Route 9 at Edgel Road
21. Route 9 at Temple Street
22. Service Area 8E 12 hour

All locations to be counted from 7:00 - 10:00 A.M. and from 4:00 - 7:00 P.M. except as noted 7:00 A.M. - 7:00 P.M.

MMISC3/42

Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

Local Liaison Group (LLG) Meeting #4
May 6, 1987

AGENDA

3:30 INTRODUCTION

Barry Lawson, President, Barry Lawson Associates

- o Review of agenda
- o Community Relations Plan: distribution/discussion
- o Review of Meeting Notes - April 8th meeting

4:00 STATUS REPORT

Traffic- *Joseph Grilli, HNTB*

Water Supply - *Mary Beth Martin, HNTB*

Water Quality - " " " "

Wetlands - " " " "

Archaeology - " " " "

Air Quality - *Jeffrey Tarde, Tech Environmental*

4:15 Noise Measurement Program - *Christopher Menge, Harris Miller Miller and Hanson*

4:45 TURNPIKE SAFETY

Capt. Robert A. Morse, Commander, Troop E, Massachusetts State Police

- o Enforcement of truck idling law
- o Turnpike speed limit enforcement
- o Hazardous materials spills - policy and prevention

5:00 OTHER BUSINESS

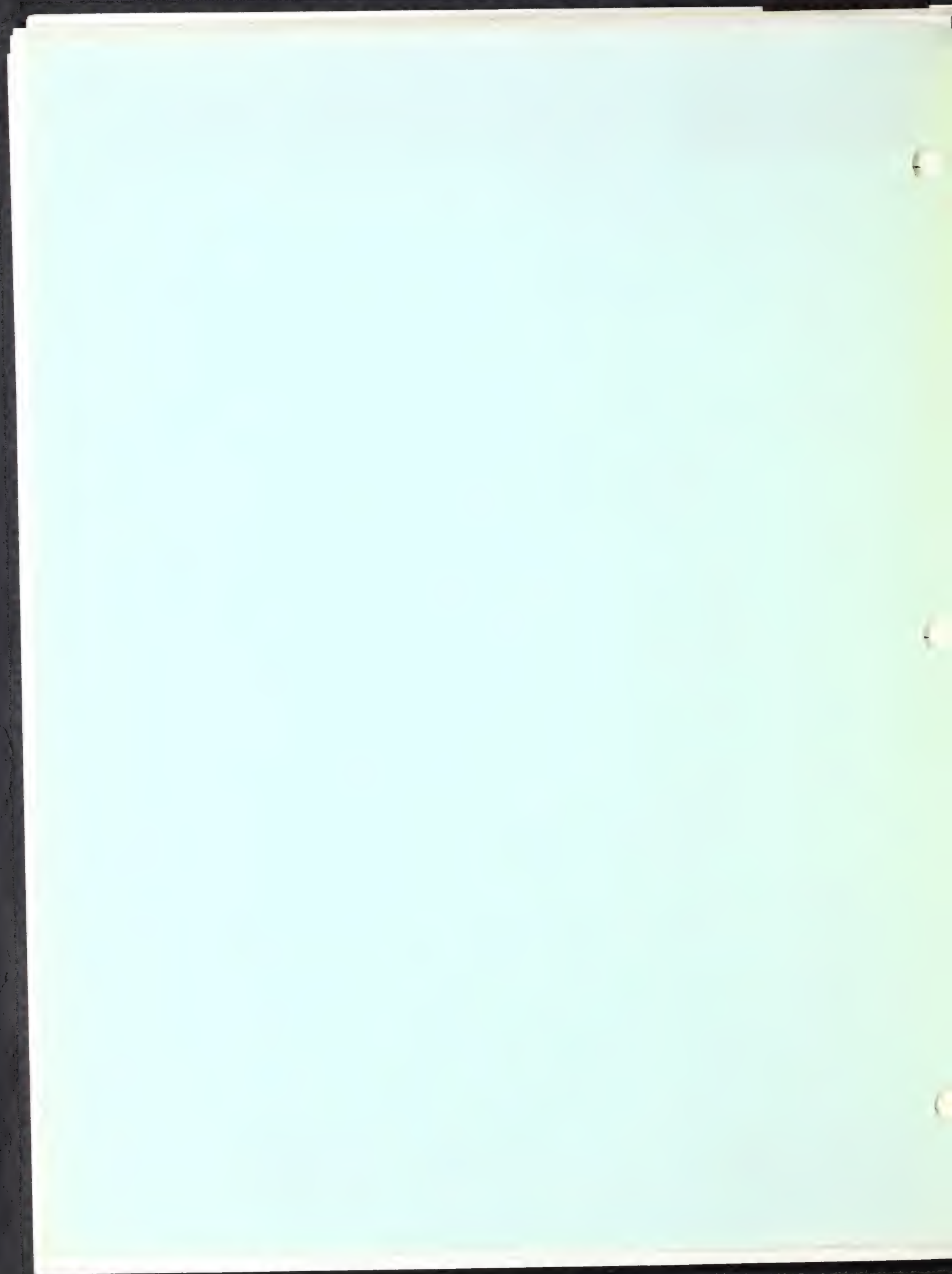
- o LLG field trip to project sites
- o Date for next meeting: **June 3, 1987 (proposed)**

5:15 Adjourn

Technical Consultants

Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
Post Office Box 648
Concord, Massachusetts 01742
Phone: (617) 369-4213



5. Newsletter



TURNPIKE IMPROVEMENT NEWS NO.1



Information on the Environmental Impact Report for Massachusetts Turnpike Authority's 1988 Improvement Program
February 1987

1988 Turnpike Improvement Program: *Meeting Present and Future Highway Needs*

The Massachusetts Turnpike Authority's 1988 highway improvement program is designed to reduce traffic congestion and improve safety on the Massachusetts Turnpike as well as prepare the Turnpike to meet the needs of the motoring public well into the future.

Over the years the number of cars on the Turnpike has increased dramatically, especially the number using the Turnpike to commute between Route 128 / I-95 and Boston and the I-495 area. Traffic congestion and reduced safety have become major problems at some locations, especially at toll plazas and access ramps during peak commuting hours. Turnpike traffic consultants and engineers have undertaken a number of studies to assess current problems, project future highway demand and gauge the need for corrective actions. Indicators of the need for improvements include:

Increased Demand — According to data from the Massachusetts Department of Public Works and the Massachusetts Turnpike Authority, within the ten-year period from 1975 to 1984, travel on the Turnpike has increased at a substantially greater rate than on parallel routes. While travel demand on Routes 9, 20, and 135 has increased at an annual rate of from 1.5 to 3.5 percent, travel demand at the five Turnpike interchanges between Hopkinton and Weston has increased by 4.5 to 8.3 percent per year. An anticipated increase in travel demand results from planned commercial and residential development in Framingham, Natick and along the I-495 and Route 128 / I-95 corridors.

Continued on Page 5



Typical morning congestion at Interchange 14 in Weston.

A Message From The Chairman

Dear Concerned Citizens:

On behalf of the Massachusetts Turnpike Authority, I am pleased to announce the beginning of the environmental studies on our capacity and safety improvements. We have assembled a highly qualified team possessing the technical skills needed to conduct



John T. Driscoll
Chairman

these important evaluations. Our studies have shown that these improvements are urgently needed to correct present problems on the Turnpike and enhance the value of the Turnpike

Continued on Page 5

First Edition

This is the first edition of *Turnpike Improvement News*, published by the Massachusetts Turnpike Authority to keep you informed about planned improvements to the Massachusetts Turnpike and the Environmental Impact Report being prepared to assess the effects of those improvements.

Please help us to reach as many interested people as possible by sharing this newsletter with friends and encouraging them to add their names to the mailing list by contacting the Community Relations Manager listed on page 5.

Comments on this newsletter and suggestions for articles are welcome.

Environmental Review Process Underway

Environmental studies for a major portion of the Massachusetts Turnpike Authority's planned safety and capacity improvements to the Massachusetts Turnpike are underway. The Environmental Impact Report (EIR) on the Authority's 1988 Turnpike Improvement Program will address traffic and travel demand, noise, air quality, water supply, wetlands, lighting, recreation, and archaeological impacts for projects valued at about thirty-six million dollars.

The Turnpike Authority has assembled a consultant team, led by

Program History

The Authority's project plans began in July 1985. As a result of concern about current Turnpike traffic congestion and safety, as well as the potential for further strain caused by planned new commercial and residential development, the Authority authorized its traffic and engineering consultants to develop recommendations on needed highway improvements. In May 1986, the Authority's engineering consultants presented a four year, sixty-three million dollar improvement program, which was adopted by the Turnpike Authority.



Some of the members of the EIR Study Team. From left: Gary Walsh, HNTB; John Grim, Turnpike Authority; Ann Jacobson, Community Relations Manager; Gordon Slaney, HNTB; Mary Beth Martin, HNTB; Mel Crain, Turnpike Authority.

the engineering firm of Howard Needles Tammen and Bergendoff (HNTB) of Boston, to perform the EIR. Subconsultants specializing in the fields of water quality, noise and vibration, traffic modelling, air quality, and archaeology will add their expertise to the project. The team also includes community relations specialists, Barry Lawson Associates, who will be coordinating a public information and consultation program for the EIR (see page 5). Preliminary field work and data gathering for the EIR is presently taking place. Most of the intensive field work, including air quality and noise monitoring, is scheduled to begin some time in the spring and will be followed by analysis of the data gathered. The Draft EIR is expected by late summer 1987.

The overall program consists of eight individual projects, including a recommended change in the toll collection system as well as a strategy of ramp improvements and highway widening.

In June 1986, the Turnpike Authority initiated the environmental review process of the Massachusetts

through the Executive Office of Transportation and Construction (EOTC). In commenting on these ENF's, EOTC Secretary Salvucci said, "I feel it is of paramount importance that all major transportation projects be subject to the appropriate environmental documentation." He added that it is important to "build critical improvements to our transportation infrastructure, guided by a firm policy of minimizing environmental impact."

In October 1986, Secretary Hoyte of EOEA issued the Certificate of the Secretary of Environmental Affairs on the Environmental Notification Forms. The Secretary determined that the anticipated impacts of four improvement projects, plus improvements to the truck parking area at Service Area 8E in Natick, raise significant environmental concerns and require the preparation of an Environmental Impact Report. He noted that "because the impacts of all five actions are interrelated and in some cases cumulative they must be evaluated under MEPA as a single project." Secretary Hoyte determined that two projects for which ENF's had been submitted, improvements to Interchanges 9 (Sturbridge) and 10 (Auburn), do not require the preparation of an EIR. Although part of the overall highway improvement program, these projects are proceeding separately and are currently in the design phase.

The two remaining projects contained in the overall highway program consist of improvements at Interchanges 11A and 12. These projects are in the engineering

" . . . the impacts of [the] actions . . . are interrelated
and in some cases cumulative"

Environmental Policy Act by submitting Environmental Notification Forms (ENF's) on the first six individual projects scheduled for construction. The ENF's were submitted to the MEPA Unit of the Executive Office of Environmental Affairs (EOEA)

feasibility stage and no environmental determinations have yet been made.

1988 Improvement Program:

Improving Traffic Flow Between I-495 and Route 128 / I-95

The 1988 Turnpike Improvement Program will contribute to an improved traffic flow in the growing region between Route 128/I-95 and I-495. Although some delays at peak hours can still be expected on the Turnpike east of Route 128/I-95 heading into Boston, improvements will make the west-of-128 portion of the commute to and from Boston easier and safer.

The following is a summary of the planned improvements to be evaluated in the Environmental Impact Report. Construction of these projects is estimated at approximately 36 million dollars and is currently planned for 1988. See the accompanying map for more information.

INTERCHANGE 15 - Weston (Boston Extension of the Turnpike)

Convert tolls to fixed fee system: Turnpike engineers

have recommended the elimination of the present ticket system at all interchanges between I-495 and Route 128/I-95 and its replacement with a fixed fee system. A fixed fee system can process a significantly greater volume of traffic and reduce individual waiting times and improve safety.

INTERCHANGE 14 - Weston (Route 128 / I-95)

Convert tolls to fixed fee system: (See Interchange 15)

Widen east and westbound ramps: Widening of the eastbound off-ramp from two to three lanes will improve safety and facilitate traffic movements through the interchange. It will alleviate congestion of those vehicles heading to Boston which now get delayed on Turnpike travel lanes by cars heading to Route 128/I-95. Improvements to westbound ramps will facilitate

movement of traffic from Boston and Route 128/I-95.

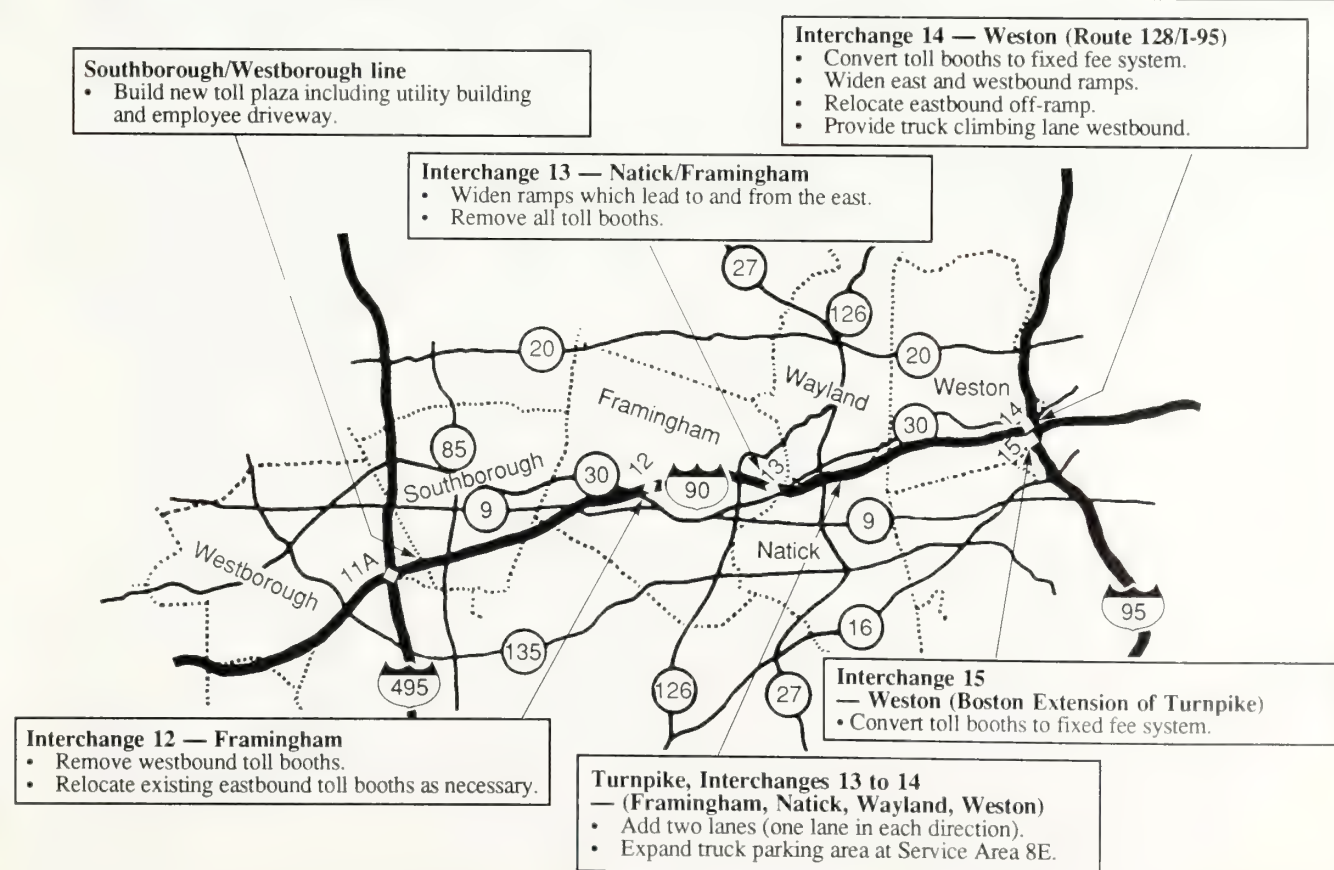
Relocate eastbound off-ramp: Off-ramp relocation will improve the turning radius and enhance vehicle safety.

Provide a truck climbing lane: The provision of a designated truck climbing lane will improve safety and traffic flow for westbound travelers.

TURNPIKE:

INTERCHANGES 13 to 14 (Framingham, Natick, Wayland, Weston)

Add two lanes (one lane in each direction): The original plan for Turnpike construction accommodated the projected need to widen the Turnpike between Interchanges 13 and 14. Property necessary for the additional lanes was taken and all highway cuts



Location of major planned Turnpike traffic improvements.

(including rock cuts) have already been made. In addition, bridges carrying local roads over the Turnpike were originally constructed with sufficient span to accommodate an additional lane, thus greatly reducing the costs and environmental impacts associated with construction.

Additional travel lanes will increase roadway capacity to reduce existing congestion and delays and take some of the burden off alternate routes, many of which are secondary local roads. As discussed with regard to Interchange 14 toll plaza and ramp improvements, Turnpike widening will assist vehicles traveling to Boston by eliminating backups onto the travel lanes of the turnpike from vehicles entering or exiting Route 128 / I-95.

Expand truck parking area at Service Area 8E: The addition of 66 truck parking spaces at Service Area 8E in Natick is required to eliminate truck parking along the Service Area ramps and in spaces designated for cars. The present situation has created hazardous conditions, particularly during winter.

INTERCHANGE 13 Natick / Framingham

Widen ramps which lead to and from the east: Existing traffic volumes on the ramps exceed their design capacity. These ramps are marked for and used as two-lane ramps, despite the fact that their width is insufficient for such a designation.

Remove all toll booths:
Removal of existing toll collection

Turnpike Toll Improvements — How Will They Affect You?

The changes in toll collection planned by the Turnpike Authority will improve safety and save time for a large number of Turnpike commuters. Here are a few examples of changes that may affect you. All tolls east of Interchange 15 remain unchanged.

If you commute from:



Boston and Route 128 / I-95 to Natick and Framingham
(Exit at Interchange 13)

You will pay a fixed fee at Interchange 14 or 15, and you will exit at Natick without stopping or paying.



Weston to Boston
(Enter at Interchange 15)

No changes will be made in the existing Turnpike toll operation from Weston and Route 128 / I-95 east to Boston.



Natick to Route 128 / I-95
(Enter at Interchange 13)

You will no longer stop to pick up a ticket or pay at Interchange 13 in Natick. You will pay a fixed fee at Interchange 14 at Route 128 / I-95.



Framingham to Route 128 / I-95
(Enter at Interchange 12)

You will no longer pick up a ticket at Interchange 12, but instead will pay a fixed fee at Interchange 12 in Framingham and at Interchange 14 at Route 128 / I-95.



Westborough to Natick
(Enter at Interchange 11A)

You will pick up a ticket at Interchange 11A in Hopkinton, turn in your ticket and pay at the new barrier toll plaza, then exit at Natick without stopping or paying.



Worcester to Boston
(Enter at Interchange 10 or 11)

You will turn in your ticket and pay at the new toll plaza. You will then stop and pay a fixed fee at Interchange 15 before continuing to Boston.

facilities will allow free flow of traffic and will help eliminate backups onto the travel lanes of the Turnpike and Route 30.

INTERCHANGE 12 Framingham

Remove westbound toll booths and relocate existing eastbound toll booths as necessary: Interchange 12 will be modified to allow free flow of traffic to and from the west, while traffic to and from the east will continue to be subject to tolls. The project includes widening of toll and approach lanes, and relocation of existing tollbooths.

SOUTHBOROUGH - WESTBOROUGH LINE

Build a new toll plaza including utility building and

employee driveway: A new 15 lane, 14 booth barrier toll plaza will be constructed for through traffic on the Turnpike between Interchange 11A and 12. Construction of such a facility will enable the Turnpike to convert from a ticket toll to a fixed fee system for all interchanges between Route 128 / I-95 and I-495. (Toll booths will be removed altogether at Interchange 12 westbound and Interchange 13). As discussed above, such a system results in significantly faster processing of cars. Traffic congestion at Interchanges 12, 13, 14, and 15 will therefore be reduced, and overall Turnpike traffic flow will be improved. In addition, such a system will improve safety conditions by reducing or eliminating backups onto the Turnpike and local roads.

Community Relations Program

The Turnpike Authority is seeking to establish open lines of communication between the involved communities and the project team and to continue close cooperation during all phases of the 1988 Turnpike Improvement Program. The goals of the community relations program are to provide the public with up-to-date information about the program, and to get input from the involved cities and towns to help the project team identify and address community concerns. A series of meetings with community leaders was held in December 1986 to introduce the project and receive input on residents' major concerns. A summary of issues raised at the meetings is available upon request.

Barry Lawson Associates of Concord, Mass. will be coordinating

community relations for the Turnpike Authority. Ann Jacobson is serving as community relations manager for the Turnpike EIR.

Key elements of the program include:

- Publication of a periodic newsletter.
- Establishment of a local liaison group (LLG) comprised of community representatives from Framingham, Natick, Wayland, Westborough, Weston, and Southborough. The group will meet monthly to discuss project progress and issues of concern. The first meeting of the group was held on January 29, 1987.
- Establishment of information repositories in the main libraries and

municipal offices of the affected communities, the State House and State Transportation libraries, and the Authority's engineering offices in Weston.

Please let us know if you have suggestions or comments on the Turnpike EIR or the community relations program by contacting:

Ann Jacobson
Community Relations Manager
Turnpike Improvement EIR
P. O. Box 648
Concord, MA 01742

Phone: (617) 369-4213

Call if you have questions and watch this space for announcements of upcoming events!

1988 Turnpike Improvement Project — *Continued from page 1*

Capacity Deficiencies — On the Turnpike between Interchanges 13 and 14, 93 percent of the available roadway capacity is used by current traffic volumes during peak periods. At this near-capacity level, traffic flow is unstable and there are virtually no usable gaps to dissipate even the most minor disruption. In other words, a vehicle entering from a ramp, a lane change, an accident, or even a truck climbing a hill, can produce a serious breakdown in traffic flow. Similar conditions exist on the ramps associated with Interchanges 13 and 14.

Following planned highway widening, at present traffic levels, only 70 percent of the available capacity would be utilized. This is a desirable design condition, in which traffic flow is considered stable, traveling at an average speed of approximately 55 miles per hour. Minor incidents or disruptions can be absorbed, but stoppages may still be expected behind significant incidents.

Congestion/Delay — An aerial survey of traffic backups and toll

congestion conducted for the Authority in October 1986 indicated excessive delays. The aggregate of toll plaza delays at Interchanges 12, 13, 14 and 15 during the peak periods (7-10 a.m. and 4-7 p.m.) exceeded 800 "vehicle hours". For example, average delays to vehicles traveling to Boston at the Interchange 15 toll plaza exceed five minutes during the morning peak hour.

The Turnpike Authority has been able to reduce delays by adding toll lanes at three interchanges in the project area. However, the long term needs of anticipated growth cannot be met by this approach, because physical and environmental constraints preclude the possibility of sufficient interchange expansion to meet projected needs.

Safety — The above conditions have increased the potential for accidents and resulted in serious safety hazards. A primary concern is backups onto the travel lanes of the Turnpike from the toll booths at Interchanges 13 and 14.

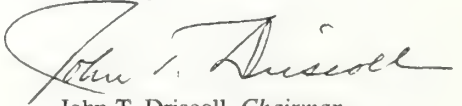
Message — *Continued from Page 1*

in the regional transportation network. At the same time, we are committed to a thorough evaluation of all potential environmental impacts and alternatives to ensure that the projects will minimize any adverse impacts to the environment. In addition, through such means as this newsletter, we hope to maintain open lines of communication between our study team and the communities in which the improvement projects are located.

Our goals are to keep you informed of the progress and findings of our studies and to incorporate your concerns and your knowledge of local conditions into our studies and plans. Already, input from citizens and officials on local traffic and access conditions has proven valuable. We hope that public input throughout the project will help us to develop improvement plans that are environmentally sound and address local concerns to the greatest degree possible.

We look forward to your active participation in this project.

Sincerely,



John T. Driscoll, Chairman
Massachusetts Turnpike Authority

Local Liaison Group To Monitor Improvement Project EIR

The Massachusetts Turnpike Authority has formed a Local Liaison Group (LLG) of community representatives to follow the progress of the Environmental Impact Report for the 1988 Turnpike Improvement Program. The group, with a member from each of the six communities, will meet periodically with the Authority and its consultants, and serve as information channels to their respective towns. Most of the towns have also designated alternate LLG members.

At the first meeting of the LLG held on January 29, it was agreed that the group will review the study methodologies and technical reports and suggest ways to enhance the community outreach program. It is

expected that the monthly meetings will focus on the major technical issues being addressed by the consultants. The second meeting is scheduled for early March.

The members of the LLG include:

Richard Albrecht, *Weston*
Jean Thurston, *Weston* (alt.)
Theresa DiCicco, *Wayland*
Cynthia Frothingham, *Wayland* (alt.)
George Wallace, *Natick*
Frederick Taintor, *Framingham*
Dexter Blois or John Walden,
Westborough
Richard Citro, *Westborough* (alt.)
Janice Conlin, *Southborough*
Charles Gaffney, *Southborough*
(alt.)



Bird's eye view of the Turnpike's Weston Interchanges.

Post Office Box 648
Concord, MA 01742

TURNPIKE IMPROVEMENT NEWS NO.2



Information on the Environmental Impact Report for Massachusetts Turnpike Authority's 1988 Improvement Program

May 1987

Environmental Impact Studies *Field Work Begins*

With the arrival of Spring, the Massachusetts Turnpike Authority, its engineering consultants, Howard, Needles, Tammen and Bergendoff (HNTB), and its team of other technical consultants, have accelerated the pace of the field work for the Environmental Impact Report (EIR) on the Turnpike Authority's 1988 Improvement Program (*See page 2*). Consultants and engineers are sampling, surveying, and monitoring to obtain the most accurate picture of conditions in the areas where impacts could be expected. Here is a brief review of progress on these studies:

Traffic

HNTB engineers have completed their field studies. Machine and manual counts have been taken in the study area; additional traffic counts were obtained from state and local records. Forty-eight hour continuous counts were made at 34 locations on various days in April. Manual counts were taken to supplement the machine counts by providing information on vehicle type and direction of travel. In addition, engineers collected data on average travel speeds and traffic delays during peak periods.

According to EIR Project Manager Joseph Grilli, "Engineers will next summarize the data to arrive at an average peak period traffic condition, and make minor daily and seasonal adjustments." The Central Transportation Planning Staff (CTPS) will then use the data to calibrate a model to predict future traffic conditions.

Noise

Field studies have been completed on existing noise in the project area. According to Chris Menge of Harris Miller Miller & Hanson, two types of noise measurements have been made. *Long term* (24 hour) measurements were taken in the back yards of four residences located close to the Turnpike right-of-way. A computerized noise meter with a microphone set on a tripod recorded noise. Measurements of maximum noise and quiet periods were obtained. In addition, *short term* measurements (30 to 60 minutes) were obtained during daytime hours from a representative selection of such noise sensitive locations as schools, residences, parks, churches and day care centers.

Water Quality

Sampling of rivers, streams, ponds and lakes began last November and has continued on a bi-weekly basis. Carl Noyes of Jason M. Cortell and Associates says, "Our original intention was to complete the sampling program in April. We have

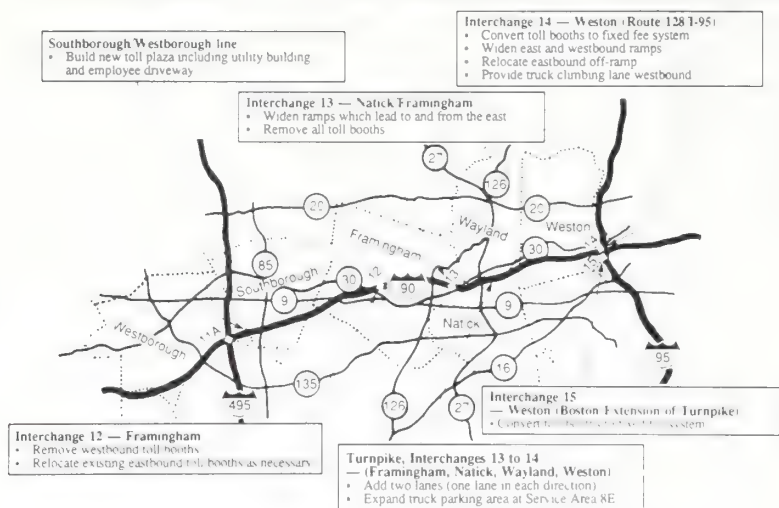
now decided to extend surface water sampling to June in order to make sure we have data on peak salt levels. This will give us a conservative estimate of background levels." Information obtained will be used in a water quality model which will predict the effect of the proposed improvements on local water bodies.

Water Supply

Consultants have collected data on groundwater quality of



Consultants measure noise near Massachusetts Turnpike.



Location of major planned Turnpike improvements.

public wells from town water departments and plan to review the results of pump tests to be done by the Town of Weston in the Blaney well field, currently under consideration as a water supply source. In addition, a private well sampling program is underway. "We obtained information from all the affected communities about the location of private wells up to about 1000 feet from the Turnpike," explained Noyes. Cortell and Associates mailed approximately one hundred questionnaires to property owners and will sample about 25 wells for

sodium and chloride analyses. The information will be used in a computer model to determine the potential for groundwater impacts from Turnpike runoff.

Air Quality

Tech Environmental, Inc. has nearly completed the field work necessary to begin computer modeling of the potential increase in carbon monoxide resulting from the Turnpike Improvement Program. An on-site survey of major intersections, interchanges and road segments (for example, Route 30 at Speen Street, Exit 13

toll plaza or I-90 free-flow section in Southborough) is almost finished. Their surveys have included mapping intersections, determining the timing of traffic lights, and identifying residences and major public places where people may be affected by vehicular carbon monoxide.

Wetlands

Work has been completed on delineating the approximately 40 wetland areas located along the Turnpike. Jason M. Cortell and Associates will soon be conducting a field verification to classify each wetland area, observe wildlife habitats and look for vegetative Species of Special Concern. "The idea is to minimize impacts to wetlands as much as possible by special design and construction measures. Where wetland filling is unavoidable, we will identify areas in which to create another wetland as close as possible to the original one," says Cortell ecologist Amy Braiewa. Work on the wetland field verification is expected to be completed by late May, and the impact analysis and wetland mitigation plans will follow.

Barrier Toll Plaza Location Alternatives

HNTB has evaluated the feasibility of alternative sites for the proposed barrier toll plaza in the Westborough/Southborough area, as required by the Executive Office of Environmental Affairs (EOEA). A comparison was made between a site located on the Westborough/Southborough town line (the site proposed in the Environmental Notification Form, or "ENF") and six alternative sites between Interchanges 11A and 12. First, environmental planners and highway engineers located alternative sites which meet minimum engineering and safety requirements. They then collected a variety of land use and environmental data and applied screening criteria to "score" each site. Criteria used were neighborhood impacts, impacts on the natural environment, safety, and engineering suitability.

The town line, or ENF, site received a score almost twice as high as the next best site. On this basis, HNTB determined that only the town line site would be carried forward for full analysis in the EIR. As EIR Coordinator Mary Beth Martin noted, "A site evaluation process had already been conducted in the Winter of 1985 before the town line site was proposed. But the formal screening analysis enabled us to review and document neighborhood and environmental impacts and engineering issues, and confirmed that no other site is as suitable as the town line site." Details of the screening study were presented by HNTB at the April meeting of the Local Liaison Group.



Consultants identify soil types during field investigations of wetland areas.

Lighting

Engineers have completed a preliminary survey of existing lighting conditions in areas in which light from new Turnpike

facilities may affect area residents. Sample light measurements were taken in the three light study areas: the ramps at Interchange 14 (Weston), Service Area 8E (Natick), and the barrier toll plaza site (near the Westborough/Southborough line). Lighting engineers used hand held light meters to measure the intensity of light being emitted by current light fixtures. Nearby houses and existing screening (e.g., trees and buildings) were identified. HNTB lighting engineer Dale Boyce says "We want to design a system which lights the Turnpike facilities without casting stray light on nearby residences."

Recreation

HNTB has completed an inventory of recreational facilities within a mile of the Turnpike. "The Local Liaison Group members and Town Planning, Conservation and Recreation Departments gave us valuable assistance in developing a comprehensive inventory," said environmental planner Lisa Drucker. She added that further work will be done in June when planners visit each recreational facility to determine those which could be affected by the Turnpike Improvement Program.

Historic and Archaeological Resources

HNTB has compiled a summary of the use and significance of the Thomas Pierce House and Barn, known locally as the Wellington or Danforth Estate. The estate is one of the few old farms still in operation in Weston. Information on the property will be used by consultants to determine whether the Turnpike Improvement Program will have noise or visual impacts on the estate.

The Public Archaeology Laboratory, Inc., of Providence, Rhode Island, has recently completed its literature search on the proposed barrier toll plaza site

on the Westborough/Southborough line. The group searched state and local files for recorded historic or pre-historic sites. In the late Spring a field survey of the area will be conducted. Archaeologists will dig

about 50 test pits in the area, each about 20 inches square by 20 inches deep. A detailed report of the results of the archaeological investigation will follow.

Technical Work Plan Finalized

Plan of Study Benefits from Public Review

The Turnpike Authority has finalized its Technical Work Plan, which outlines study and sampling methodologies and monitoring locations to be used in the Turnpike Improvement Environmental Impact Report. The document incorporates many important elements suggested during the public review process.

According to EIR Coordinator Mary Beth Martin of HNTB, "The Authority proposed the public review of the Work Plan to insure that interested parties could see what we were planning to study and how we planned to conduct the analyses. The thoughtful comments and discussion during the review have greatly improved the Work Plan and clarified its intent to the public."

The draft Work Plan was reviewed by the Massachusetts Environmental Policy Act Unit of the Executive Office of Environmental Affairs in early February. After incorporating changes suggested by that agency, the Authority released the Work Plan for a four week public comment period. The Local Liaison Group reviewed the document at its March meeting and suggested several revisions. The Authority then met with consultants for the Town of Weston to review their comments and concerns. The document was also reviewed by state regulatory agencies.

The Authority and its consultants prepared responses to these comments and modified the Work Plan where warranted. Significant changes included expanding the traffic forecasting model to a more regional basis; adding more streets, intersections and facilities to modeling/monitoring locations; and initiating a program of private well sampling in areas near the Turnpike right-of-way.

A complete listing of questions, comments and responses has been compiled in "Technical Work Plan, Summary of Public Comments and Responses, April 1987." The document and the final Work Plan are available in Information Repositories (*see Page 6 for locations*). Copies are also available upon request from the Community Relations Manager, Barry Lawson Associates, PO Box 648, Concord, MA 01742.

Chairman Driscoll Meets With Legislative Committee

John T. Driscoll, Chairman of the Massachusetts Turnpike Authority, met with the State Legislature's Transportation Committee on April 15 to discuss the progress of the Environmental Impact Report (EIR). In addition to briefing Committee members on the need for the proposed improvement project and highlighting the major aspects of the study, Driscoll answered questions about the study. Gordon Slaney, Partner of HNTB, explained the major elements of the improvement program.

Upon the request of Rep. Robert Marsh (Weston), a meeting to brief area legislators on the EIR will be organized. Marsh, who is not a member of the Transportation Committee, requested the meeting to provide interested representatives and senators an opportunity to become more familiar with the types of analyses being undertaken. No date has been set for that meeting.

The meeting was Chairman Driscoll's second one with legislators concerning the EIR project. He first briefed legislative members on the Authority's intention to undertake the study in October 1986, just prior to the initiation of the study.

Hi Tech System Reduces Salt Use



John Dias explains how SCAN system can reduce the need for salt reapplications.

John Dias, Maintenance Engineer for the Massachusetts Turnpike Authority, sits proudly beside the video display terminal housing the newest player on the Authority's snow and ice control "team" - SCAN (Surface Condition ANalyzer). SCAN, installed this past winter, is a unique microprocessor-based information system which uses sensors to provide maintenance staff continuous information about pavement and weather conditions at four key bridges along the Turnpike.

The system is unusual because the sensor is powered by photovoltaic batteries at three of the four sites. "SCAN takes the guess work out of determining when road salting is needed so we can minimize road salt reapplications and reduce the environmental impact and cost of salting, without reducing safety," reports Dias. He adds, "SCAN gives us advance warning of when roads and bridges are going to freeze. Maintenance staff can now respond before the situation becomes dangerous."

The Turnpike's SCAN system, funded by the State Department of Energy, is the most

advanced of the New England systems installed by SCAN's inventor, Surface Systems, Inc. (SSI). According to Turnpike Authority Chief Engineer Mel Crain, "The system was designed originally for use at airports and had to be adapted to the Turnpike's topography, elevation, and line of sight." As a result of a suggestion by Dias, the system was further adapted to New England conditions

In addition to forewarning of freezing roadways and bridges and detecting salt levels, SCAN detects rainfall rates and provides atmospheric data, color weather radar, forecasts and storm warnings.

by placing additional sensors one and a half feet underground to detect frost penetration in spring and fall.

In addition to forewarning of freezing roadways and bridges and detecting salt levels, SCAN detects rainfall rates and provides atmospheric data, color weather radar, forecasts and storm warnings. "It's early and the SCAN system still has bugs," says Dias. "But I am more and

more convinced that the system is the key to controlling our use of salt and thus minimizing environmental impacts."

Crain added that the Turnpike has always been in the forefront in protecting water resources from the use of road salt. "By 1973, salt storage sheds were installed at all Turnpike maintenance depots and were cited as environmentally sound examples by the U.S. EPA in its Manual for De-Icing Chemicals and Storage Handling."

By 1969, the Turnpike had acquired spreading equipment to measure and control salt application and by 1976 all spreaders were automated. The Turnpike Authority is believed to have been the first highway agency in the country to have its snow-fighter fleet 100 per cent equipped with sensor-automated spreaders.

"The Authority is continually examining new and innovative ways to improve its performance in this area," notes Crain. "The most exciting possibility at the moment is the potential for use of a new substance for highway de-icing." Called Calcium Magnesium Acetate (CMA), the material is far less detrimental than salt to the environment. The New York State

Energy Research and Development Authority is sponsoring a pilot research project on the manufacturing of the material. The project is examining whether CMA, produced from corn, can compete with salt as a highway de-icing material. "Initial field tests done by the Massachusetts Department of Public Works in Somerset this past winter looked encouraging," Crain said.

Information Repositories Established

Repositories for information on the Turnpike Authority's Environmental Impact Report have been established for the interested public. Each repository is updated monthly with documents prepared during the study, the Work Plan, and all engineering designs for improvements proposed. The Weston repository will also contain the data used in the study. Information may be viewed by making arrangements with designated contact people. See accompanying chart for hours and locations of each repository.

Location	Contact	Hours				Telephone
		Daily	Evenings	Sat.	Sun.	
Framingham Public Library Framingham Planning Dept.	Carol Witham	X	M-TH	X	X	879-3570
	Frederick Taintor	X				620-4852
Morse Institute Library Natick Planning Department	Mrs. Coverly	X	M-TH	X		651-7300
	Charles Sisitsky	X				651-7260
Southborough Library Town House, Southborough	Judith Williams	X	M,W,TH	X		485-5031
	Janice Conlin	X				485-0710
Wayland Public Library Town Hall, Wayland	Phoebe Homans	X	M-TH	X	X	358-2311
	Edward Perry	X				358-7701
Westborough Public Library Town Hall, Westborough	Marialice Wade	X	T,TH	X		366-0725
	Dexter Blois	X				366-7100
Weston Public Library Town Hall, Weston	Donna Davies	X	M-W	X	X	893-3312
	J. Ward Carter	X				893-7320
State House Library	Leo McAuliffe	X				727-2590
State Transportation Library (10 Park Plaza, Boston)	Toby Pearlstein	X				973-7154
Engineering Offices, (Massachusetts Turnpike Authority, Weston)	M.C. Crain	X				237-3250

1988 TURNPIKE IMPROVEMENT PROGRAM



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TURNPIKE IMPROVEMENT NEWS

TURNPIKE IMPROVEMENT NEWS NO.4



Information on the Environmental Impact Report for Massachusetts Turnpike Authority's 1988 Improvement Program

January 1988

FUTURE TURNPIKE TRAFFIC

Commuters Will Benefit from Turnpike Improvements

Forecasts of 1995 traffic levels with and without the 1988 Turnpike Improvement Program suggest that Turnpike traffic will experience fewer delays and less congestion if the improvements are made. While Turnpike traffic will increase with the improvements, studies indicate that future traffic on such roads as Route 9 and Route 30, though higher than at present, would be lower than if the program was not implemented. The Improvement

Program is not expected to have any significant impact on roads beyond the sub-region from I-495 to I-95/Route 128.

According to Joe Grilli, Environmental Impact Report (EIR) Project Manager for the Turnpike Authority's consulting engineers, Howard Needles Tammen and Bergendoff (HNTB), forecasts of Turnpike traffic growth are less than had been anticipated. "Employment and

Continued on Pg. 2



Turnpike improvements are needed to reduce traffic congestion.

Future Turnpike Traffic — continued from Pg. 1

population projections do not indicate a continuation of quite the level of growth in traffic which has occurred on the Turnpike over the past twenty to thirty years," Grilli said. "Nonetheless, the figures indicate a continued growth in traffic and confirm the benefits of the project. The traffic analysis has shown that the roadway widening is needed and it is not feasible to expand the current ticket system to accommodate future growth and still maintain the high level of service commuters have come to expect from the Turnpike," Grilli added.

These conclusions are the culmination of a six-month study in which information on existing traffic conditions, in combination with estimates of growth and change in population and employment in the communities of the region, was used to estimate future traffic levels at every section of the Turnpike between I-495 and I-95/Route 128 as well as at many key locations off the Turnpike.

The forecasts were made by the Central Transportation Planning Staff (CTPS) as part of the 1988 Turnpike Improvement Program EIR. CTPS used state-of-the-art computer models to develop estimates of traffic volumes for 1987, 1988, and 1995. HNTB traffic engineers then used this information to make a comparison of future (1995) conditions *with* the implementation of the Improvement Program (called the "Build" alternative) and *without* the improvements (the "No-Build" alternative) to determine whether the improvements produce real benefits for Turnpike users and local traffic. Highlights of the study follow:

- The implementation of the program does not result in major changes to the regional traffic patterns outside the sub-region (considered to be the corridor stretching from I-495 to I-95/Route 128). For example, the Improvement Program results in no changes to traffic on the Boston Extension, the Central Artery or traffic from the Worcester area.

- Under the No-Build alternative, traffic growth on the Turnpike between now and 1995 will vary between one and four percent per year. Heaviest growth of 4 percent per year is anticipated at Interchanges 12, 13, and 14. Lightest growth of 1 percent per year is expected at Interchange 15.

- Within the I-495 to I-95/Route 128 area, a modest increase in traffic on the Turnpike is expected if the program is implemented. Table 1 illustrates traffic increases on the Turnpike with and without the Project.

- Traffic on certain local roads and Routes 9, 30 and 135 will be lighter if the Improvement Program is

implemented than if it is not. Table 2 compares traffic increases above today's levels on selected state routes for the Build and No-Build situations.

Table 1 Massachusetts Turnpike
CHANGES IN TRAFFIC VOLUMES

LOCATION	FROM 1987 TO 1995		1995
	WITHOUT PROJECT (No-Build)	WITH PROJECT (Build)	CHANGE DUE TO PROJECT*
Interchange 12	+36.1%	+40.2%	+3.0%
Interchange 13	+39.1	+48.4	+6.7
Interchange 14	+35.9	+43.1	+5.3
Interchange 15	+9.2	+10.3	+1.0
(tol from Boston Extension)			
Interchange 15	+6.2	+9.4	+3.0
(tol from Rte. 128 & Rte. 30)			
Mainline 11A to 12	+8.7	+7.0	-1.5
Mainline 12 to 13	+7.1	+7.5	+0.4
Mainline 13 to 14	+22.5	+26.5	+3.4
Mainline 16 to 17	+9.9	+9.9	0.0
(Boston Extension)			

*This column compares the BUILD alternative to the NO-BUILD alternative and illustrates the increase (+) or decrease (-) in 1995 traffic volumes due to the project. Percentages are not additive since they are calculated from a different base.

Table 2 Selected State Highways
CHANGES IN TRAFFIC VOLUME

LOCATION	FROM 1987 TO 1995		1995
	WITHOUT PROJECT (No-Build)	WITH PROJECT (Build)	CHANGE DUE TO PROJECT*
Route 9, west of Route 128	+17.3%	+15.1%	-1.9%
Route 30, between Oak St. & Route 27	+4.0	0.0	-3.9
Route 135, east of Route 27	+8.8	+6.3	-2.2
Route 128, between Route 16 & Tpke	+16.4	+15.4	-0.9
Route 128, between Tpke. & Route 20	+26.4	+27.3	+0.7
Route I-495, between Route 9 & Tpke	+20.3	+18.8	-1.3
Route I-495, between Rte 9 & Rte 20	+32.3	+32.7	+0.2

*This column compares the BUILD alternative to the NO-BUILD alternative and illustrates the increase (+) or decrease (-) in 1995 traffic volumes due to the project. Percentages are not additive since they are calculated from a different base.

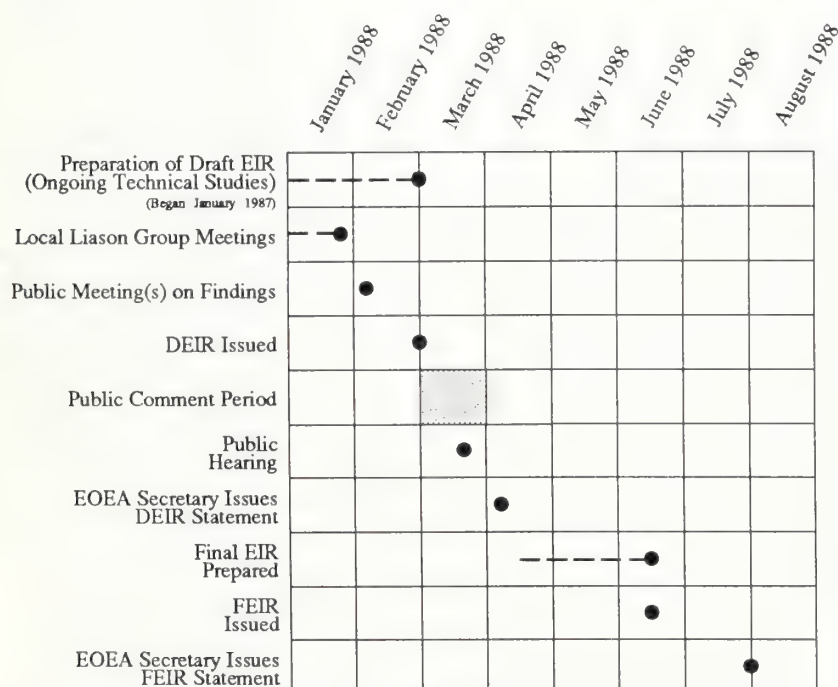
- Growth forecasts indicate a need for a 19-lane (18 booth) barrier toll plaza between Interchange 11A and 12. The July 1986 Environmental Notification Form (ENF) for the barrier toll plaza indicated the need for a 15-lane (14 booth) toll plaza by 1990. The preliminary studies on which the ENF was based also indicated the need for 19 lanes (18 booths) by 1995. Recent traffic forecasting conducted for this EIR confirms the need for 19 toll lanes in 1995 to minimize delays and to maintain an acceptable level of service.

Future Turnpike Traffic — continued on Pg. 6

AUTHORITY REVISES EIR SCHEDULE

The planned schedule for the preparation of the Environmental Impact Report on the 1988 Turnpike Improvement Program has been changed, and the study is now expected to take an additional two months to complete, according to EIR Project Manager Joe Grilli of Howard Needles Tammen and Bergendoff (HNTB). "In the last issue of *Turnpike Improvement News*, we reported that delays in collection of existing traffic data had caused a modification of the original EIR schedule," said Grilli. "Since then, the Central Transportation Planning Staff (CTPS) has been using the field data on traffic that HNTB collected to project future regional traffic conditions. CTPS completed this work in October and our staff has been using the forecasts to analyze future traffic conditions." See article on page 1 for results of traffic analysis.

Grilli pointed out that traffic data is central to the project because it is used in the majority of the other impact studies included in the EIR. "Because of the earlier delays and scheduling conflicts which resulted, the schedule has had to be revised again." See the accompanying chart for information on the revised schedule.



Update on Impact Studies

Despite delays, progress has been made on several of the impact studies which make up the EIR. Final information on archaeological resources at the barrier toll plaza site near the Westborough/Southborough town line indicates that no evidence of prehistoric artifacts or historic cultural material was found and that the area has little potential for archaeological artifacts or sites.

The visual effect of the Improvement Program in the vicinity of the Thomas Pierce House and Barn in Weston was examined as part of the study of historical resources, and it was determined that the loss of existing roadside vegetation and the relocation of the embankment may make the Turnpike more visible from that site. A planting plan will be designed to minimize this impact. Audible effects on the site will also be examined during the next phase of this study.

As part of the study of recreation facilities, an inventory and a preliminary screening process has been nearly completed to identify sites which have the potential of being affected by the Turnpike expansion. These sites will undergo a detailed impact evaluation.

Air quality studies have determined that the project will fully comply with the State Implementation Plan in improving Non-Methane Hydrocarbon emissions over No-Build alternatives. This is the result of more efficient traffic flow on the Turnpike and on the major feeder roads.

AUTHORITY PLANS INFORMATION MEETINGS

Planning for Public Information Meetings is underway. The meetings will be held in late January or early February, 1988. They will provide information on the findings and recommendations which will be presented in the Draft Environmental Impact Report and answer questions raised by residents.

More information on the meetings will follow.

Update on Road Salt *Turnpike plans for winter.*



Automated salt spreaders precisely measure and control salt application.

The approach of winter has Turnpike officials planning for the seasonal problem of maintaining road safety while minimizing the impact of road salt on local water supplies. The May issue of *Turnpike Improvement News* detailed how computer-aided technology can help minimize the need for salt applications, and how the Authority is keeping close tabs on the feasibility of innovative alternatives to salt. Several other efforts are also worthy of note as the snow season approaches.

According to Turnpike maintenance engineer John Dias, the Authority's recently completed three-year equipment replacement program will pave the way toward reduced salt use. "Our new automated salt spreaders are equipped with state-of-the-art sensors, which can measure and control salt application far more precisely than anything we've had before," Dias noted. Dias also pointed out that the increased road surface associated with the widening of the Turnpike between Weston and Natick may not mean an increase in salt usage. "Distribution of the salt brine solution relies on the slope of the road, and the new lane should get adequate coverage from the same amount of salt as we now use," Dias said.

Turnpike Chief Engineer Melvin Crain explained that road salt is used to prevent bonding of the snow to the pavement, preventing "hardpack" and facilitating plowing. "It has sometimes been suggested that we apply sand or a sand-salt mixture to the Turnpike," says Crain. "This approach may be suitable for secondary roads having light traffic. However, it has been proven that sand/salt mixtures are impractical on high-speed highways. Sand may provide traction to tires, but it does not melt snow or ice and therefore cannot prevent "hardpack" or bonding to the pavement. Sand is quickly blown off

"... the new lane should get adequate coverage from the same amount of salt as we now use."

high-speed highways such as the Turnpike, requiring spreading many times to keep traction as layers of snow or ice accumulate. The application of this quantity of sand itself causes environmental problems as it runs off into water bodies, clogs drains and fills up catch basins. In addition, the removal of sand amounts to a significant cost to the Authority," Crain said.

The Turnpike applies road salt in accordance with guidelines resulting from the 1978 Generic Environmental Impact Report for Snow and

Ice Control Operations (GEIR). This Generic EIR, which the Authority helped develop, applies to the activities of the Metropolitan District Commission and the Department of Public Works as well as the Turnpike Authority. As a result of increased concern about the effect of salt on water supplies, the GEIR is now being updated. The Turnpike Authority is a member of the Salt Advisory Committee, established by Secretary Hoyte of the Executive Office of Environmental Affairs to monitor the progress of the GEIR and act as the focus of public involvement for the study.

Engineering consultants have been engaged to assist in the development of the GEIR, and snow and ice control experts are expected to begin their work by establishing a reasonable "baseline" standard of snow and ice control from the point of view of "good housekeeping", safety, and cost effectiveness. This is accomplished by considering the optimal use of modern technology, equipment and salt. Engineers and environmental specialists will then study the impacts of salt use on water supplies, plants, and wildlife, and the corrosion of vehicles, bridge decks, or other reinforced concrete structures.

This will allow them to determine which factors generate negative environmental impacts, the relative importance of these factors, and the possibilities for reducing these impacts. Finally, alternatives to salt use in areas of great environmental sensitivity will be developed. The GEIR is thus a tool to guide decision-makers in the proper use of road salt and in the protection of environmental resources throughout the state. Work on the updated GEIR is expected to be completed in 1988.

LLG CONTINUES REVIEW

The Local Liaison Group, established by the Massachusetts Turnpike Authority to provide input to the Environmental Impact Report on the 1988 Turnpike Improvement Program, has begun its review of available data on existing and future conditions and environmental impacts in the study area. This review began with a presentation on existing traffic conditions, which indicate some severe capacity and operational problems. LLG members focused their comments on the effect of the Turnpike Improvement Program and other projects on local roads. The group later reviewed similar information on projected 1995 traffic levels.

While reviewing preliminary data on potential impacts on recreation facilities, LLG members expressed an interest in obtaining equally detailed consideration of residential areas. Turnpike Authority staff stated that residential areas would be evaluated in detail as proposed in the Technical Work Plan for the Project. Comments on the visual impacts of the Turnpike widening on historic resources (the Thomas Pierce House and Barn in Weston) focused on the desired size of replacement planting to reduce those impacts. The group also received information indicating that no archaeological resources are present in the vicinity of the proposed barrier toll plaza site.

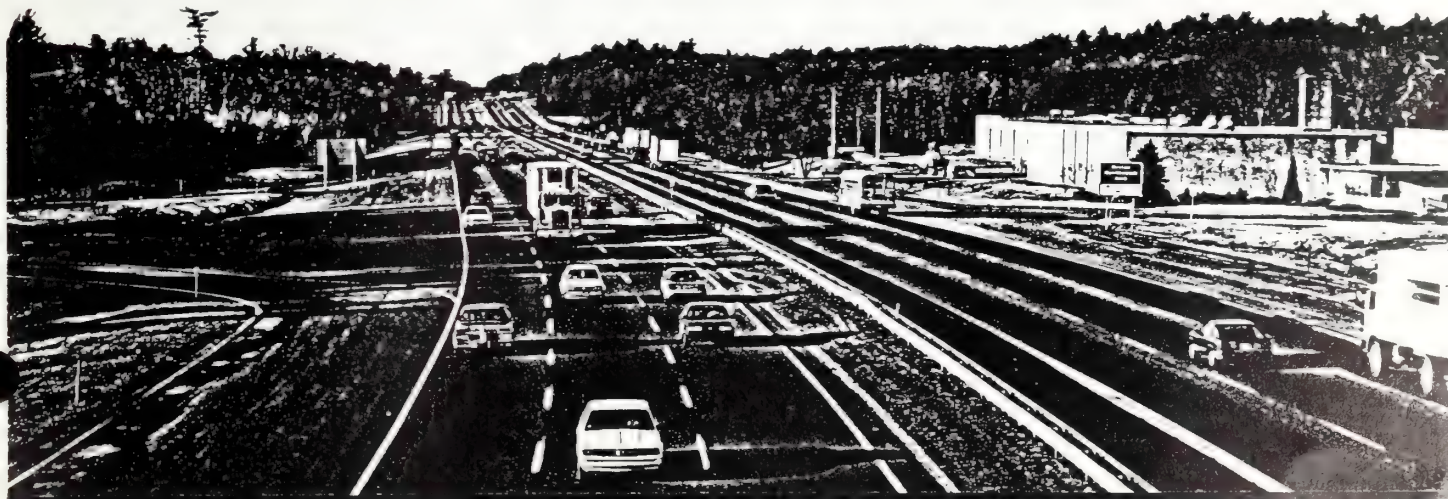
Also, the group was shown preliminary designs of the proposed improvements. LLG members gave the consulting engineers feedback on the community's perspective including comments on the widening at Interchange 14 and the land-taking necessary for the construction of the barrier toll plaza. In addition, an issue of concern to the LLG, particularly its Natick members, is the expansion of Service Area 8E. Natick members Bill Costello and George Wallace have questioned the need for the expansion as well as the methods to be used to study air quality impacts in the area. Consultants emphasized that the service areas on the Turnpike provide an important highway service and that impact studies will thoroughly evaluate possible environmental impacts and suggest mitigation measures.

The LLG is expected to pick up the pace of its activities in the coming weeks, as it reviews impact studies and comments on the analyses and recommendations contained in these studies. The group reviewed air quality, lighting, water quality, water supply and wetlands in December, and is scheduled to review noise and recreation in early January 1988. See page 3 for more information on the study schedule.

DATA REPOSITORY ESTABLISHED

The Turnpike Authority has established a *Data Repository* containing the data used in the preparation of the impact studies which form the basis of the Environmental Impact Report. Information is placed in the repository as it becomes available and includes traffic counts, sampling and measurement results, computer modeling output, and wetlands survey maps. At this printing, the data repository contains all traffic counts, private well sodium data, stream and surface water quality data, wetlands maps, list of sensitive receptors for the air quality studies, air quality modeling data, and existing light measurements.

The repository is open to the public from 9 a.m. to 3:30 p.m., Monday to Friday, and is located in the Turnpike Authority's Weston Engineering Headquarters (next to the State Police barracks), Room 210. Please contact Victoria Tsao of the Turnpike Authority (237-3250, extension 236) for information on the types of data currently available and to arrange access to the material. Information can be viewed at the repository and a limited number of prints (fewer than five pages) will be made free of charge. Requests for extensive copying must be made in writing and will be subject to a nominal charge.



Future Turnpike Traffic — continued from Pg. 2

• Increased delays, slower speeds and other serious operational and safety problems will exist if the improvements are not made. An analysis of the future operational characteristics of the Turnpike in terms of delays, speed, queuing, traffic density, and "level of service" (a general report card "grade") with and without the Improvement Program indicates that the Turnpike traffic demand will exceed safe capacity if the improvements are not implemented. Travelers using Interchanges 13 and 14 and the mainline in between would benefit the most from the Improvement Program. For example, at the Interchange 14 eastbound off-ramp, the level of service would be D (satisfactory) if the improvements are made and F (poorest) if they are not made. The highway segment between Interchange 13 and 14 would be rated D (satisfactory) if the improvements are made, with approximate speeds at or above the speed limit. If the improvements are not made, the segment would be rated F (poorest) with speeds less than 30 miles per hour.

Improvements to the alignment of sections of the Turnpike, as well as reduction of toll plaza queues, will enhance safety on the Turnpike. Toll plaza congestion at Interchanges 12, 14, and 15 will be reduced upon implementation of the Improvement Program and eliminated

completely at Interchange 13. In addition, future year volume-to-capacity ratios will be reduced from levels as high as 1.71 to 0.88 or better.

According to Grilli, the traffic forecasts have been given to the team of technical sub-consultants which is examining the impacts of the Improvement Program on air quality, noise, water quality and supply, and recreation. Determinations of future environmental impacts will depend upon these traffic projections. Information used to arrive at the traffic forecasts is available for public review at the Data Repository. See page 5 for more information.

Turnpike Improvement News

Turnpike Improvement News is published by the Massachusetts Turnpike Authority to keep you informed about planned improvements to the Massachusetts Turnpike and the Environmental Impact Report being prepared to assess the effects of those improvements. Comments on this newsletter and suggestions for articles are welcome. Address all correspondence to:

Editor, *Turnpike Improvement News*

c/o Barry Lawson Associates

P.O. Box 648

Concord, MA 01742

(617) 369-4213

1988 TURNPIKE IMPROVEMENT PROGRAM



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TURNPIKE IMPROVEMENT NEWS NO.5

Information on the Environmental Impact Report for Massachusetts Turnpike Authority's 1988 Improvement Program

January 1988

PUBLIC MEETINGS SET TO REVIEW IMPACT STUDIES

February 3, 1988: Southborough

February 4, 1988: Weston

The Massachusetts Turnpike Authority will sponsor two public meetings to present preliminary information on the impact studies which form the basis of the Draft Environmental Impact Report (DEIR) on the 1988 Turnpike Improvement Program, and to answer the public's questions on the study findings. The meetings will feature a display of information on impacts and mitigation measures, presentations on findings and ample time for questions and answers. They will be held as follows:

- February 3*, 1988 at 6:30 p.m.
Southborough: Margaret Neary School Cafeteria,
Parkerville Road
- February 4*, 1988 at 6:30 p.m.
Weston: Weston High School Cafeteria,
Wellesley Road

**Tentative snow dates are set for February 10 in Weston and February 11 in Southborough.*

The schedule for both of the meetings will be:

- 6:30-7:30 p.m. Display of Information and Materials
- 7:45-8:00 p.m. Presentation on Findings
- 8:30-10:30 p.m. Questions and Answers

According to Joseph Grilli, EIR Project Manager of Howard Needles Tammen and Bergendoff, the Turnpike Authority's engineering consultants, the information display preceding the meetings will offer area residents a unique way of viewing preliminary project plans and gaining information about potential environmental impacts. "We have prepared a walk-through display to show information on the project's history, the major project areas, impacts, and mitigation measures", said Grilli. "Fact sheets will be available on the proposed improvements and associated impacts."

Following the information display, Turnpike Authority officials and their engineering consultants will give a presentation on the need for the project, as demonstrated by existing traffic conditions and future traffic projections. Consultants will also explain studies done to identify impacts associated with the program and outline "mitigation measures" which are suggested

to avoid or reduce potential adverse impacts. A question and answer period will follow the presentation.

Mel Crain, Turnpike Authority Chief Engineer, feels the public information meetings will benefit both the community and the project team. "Holding these meetings well along in the environmental studies but prior to the completion of the Draft EIR will provide residents with a forum to learn more about details of the project and voice their concerns. The input provided by residents at the meetings will enable the project team to better understand and address valid concerns in the Draft EIR." Following the submission of the Draft EIR to the MEPA Unit of the Executive Office of Environmental Affairs on March 1, 1988, a public hearing will be held in early April to receive comments on the completed Draft EIR.

According to Ann Jacobson, Community Relations Manager for the project, residents can get additional information on the Turnpike Improvement Program at several locations. "An 'Information Repository' has been set up in the town halls and main libraries in Framingham, Natick, Southborough, Wayland, Westborough and Weston. Also a central data repository has been established at the Turnpike Authority's Weston Engineering Headquarters, next to the State Police barracks, containing all the data used in the preparation of the impact studies." Please see accompanying article for more information on the repositories.

For more information on the meetings, contact Ann Jacobson of Barry Lawson Associates, at 369-4213.

DIRECTIONS TO PUBLIC MEETINGS

February 3, 1988 — Neary School, Southborough

From the east — take Route 9 West. About one half mile after the exit for Route 85 take a right onto Parkerville Road, next to Andrea's Restaurant. Neary School is on the left approximately one third of a mile from Rte. 9.
From the west — take Rte. 9 East to the Rte. 85 exit and u-turn back onto Rte. 9 heading west. Follow directions above to Neary School.

February 4, 1988 — Weston High School, Weston

From Route 128 — take Route 30 West. Proceed approximately two miles to stop light at Wellesley Street and take a left. Weston High School is less than one mile from Rte. 30 on the left. Take second driveway. Meeting is in the cafeteria.

LOCAL LIAISON GROUP PREVIEWS IMPACT DATA

The Local Liaison Group (LLG), established by the Massachusetts Turnpike Authority to follow the progress of the EIR on the 1988 Turnpike Improvement Program, has stepped up the pace of its activities as the impact studies reach their conclusion. The group has met frequently in December and January to hear presentations by engineering consultants Howard Needles Tammen & Bergendoff and its team of technical subconsultants. Information on findings and mitigation has been presented as soon as it is available, sometimes in preliminary form, so that consultants can have the benefit of early review and comment from the public's perspective before finalizing their analysis and recommendations.

Members of the Local Liaison Group will be on hand at the Public Information meetings to assist the project team in answering residents' questions and give their views on study results. A list of LLG members and alternates follows:

Framingham:	Frederick Taintor, Planning Director Fred Sargeant, Town Engineer (alternate)
Natick:	George Wallace, Conservation Commission William Costello (alternate)
Southborough	Janice C. Conlin, Administrative Assistant to Selectmen Charles Gaffney, Planning Board (alternate)
Wayland	Theresa DiCicco, Mass Pike Citizens Group Marcy Crowley, Board of Selectmen (alternate), <u>or</u> Cynthia Frothingham (alternate)
Westborough	Edwin Thorne, Town Coordinator <u>or</u> John Walden, DPW Manager Lawrence Gomes (alternate)
Weston	Richard Albrecht Jean Thurston, Board of Selectmen (alternate)



PROGRAM INFORMATION AVAILABLE

Information on the 1988 Turnpike Improvement Program is available at town halls and public libraries in the study area. These 'Information Repositories' are binders which contain details on the Environmental Impact Review process, the study Work Plan, the Local Liaison Group (LLG) and other project information.

In addition, a central data repository has been established, containing the information used in the preparation of the impact studies. The central repository now contains such information as traffic counts, population and employment projections, private well sodium data, stream and surface water quality data, wetlands maps, a list of locations for which air quality estimates were made, and existing light measurements. Additional data on noise, recreational resources, and air quality will be available by the time of the public information meetings. Contact Ann Jacobson, Community Relations Manager, for the locations of the Information Repositories at 617-369-4213.

1988 TURNPIKE IMPROVEMENT PROGRAM

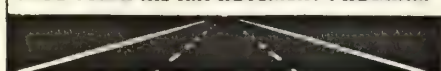


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6. Tech. Work
Plans/Reports



1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

TECHNICAL WORK PLAN SUMMARY OF PUBLIC COMMENTS AND RESPONSES

APRIL, 1987

Technical Consultants

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MASSACHUSETTS TURNPIKE AUTHORITY'S
ENVIRONMENTAL IMPACT REPORT (EIR) ON
1988 TURNPIKE IMPROVEMENT PROGRAM

TECHNICAL WORK PLAN - SUMMARY OF PUBLIC COMMENTS AND RESPONSES

I. INTRODUCTION

The Massachusetts Turnpike Authority released a Technical Work Plan for the Environmental Impact Report (EIR) on the 1988 Turnpike Improvement Program on February 19, 1987. The Work Plan outlines the plan of study to be conducted in response to the October 1, 1986 Certificate of the Secretary of Environmental Affairs as well as additional work requested by the Massachusetts Historical Commission.

The Turnpike Authority established a review procedure to ensure that all appropriate parties receive an opportunity to comment on the proposed Work Plan. Comments were accepted until March 13, 1987. The proposed Work Plan was reviewed by several state agencies, the Local Liaison Group for the project, and consultants for the Town of Weston. This document summarizes questions raised and comments made during the review period, and the Authority's responses to these concerns. The final work plan will be released in the near future.

II. ORGANIZATION OF THIS DOCUMENT

Questions and comments are organized by environmental impact categories as follows:

- A. Transportation Service and Travel Demand Forecasting
- B. Air Quality
- C. Noise
- D. Ground/Surface Water Supplies
- E. Surface Water Quality
- F. Wetlands
- G. Light Impact
- H. Recreation
- I. Historic and Archaeological Resources
- J. Other Issues

Within this framework, comments have been grouped into the following sub-categories as appropriate:

Existing conditions
Projection of future conditions
Sensitive receptors/modeling locations
Mitigation measures
Development of alternatives



Comments on the Technical Work Plan were received from a number of sources and addressed a broad variety of issues. Commentors are identified to the extent possible, but comments have been summarized or combined for ease of reading and in instances in which several people made similar points. The source(s) of comments is/are identified by the letter code in brackets, shown as []. A key to the source of comments is found below.

Responses to comments and questions are printed in boldface, and follow each group of related comments.

Key to Comments Received on Technical Work Plan

RL	Memo to Michael Gerrard from R.H. Lyon (dated December 26, 1986)
DEQE	Telephone conversation with Tony Leonido of DEQE's Division of Water Supply (February 27, 1987)
LLG	Discussions at Local Liaison Group meeting of March 4, 1987
MG	Letter from Michael Gerrard (dated March 4, 1987)
MG/	Clarification or point made verbally at meetings held with Michael Gerrard and several sub-consultants on March 6 and March 9, 1987 /RL - R.H. Lyon /JF - James Fay /JD - John Drobiniski /JK - John Kain
FT	Letter from Frederick S. Taintor, Planning Director, Town of Framingham (dated March 12, 1987)
JK	Memorandum to Barry Lawson from John Kain (dated March 13, 1987)

III. SUMMARY OF COMMENTS

A. Transportation Service and Travel Demand Forecasting

Existing Conditions

- (1) Recent rates of growth in traffic levels should be presented. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The EIR will document recent rates of traffic growth by comparison of current traffic levels to historic levels, to the extent that these historic data are available.

- (2) The traffic counts should show both 24-hour and peak hour levels, and should show the directional split. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The data collection program for the EIR will include 24-hour, 12-hour, and 6-hour counts by direction. All counts performed will include the morning and evening peak hours.

- (3) Complete origin/destination data are necessary for current Turnpike users -- not just exit-to-exit tables, which reflect only a fraction of each trip. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. A "complete" origin/destination survey will not be conducted for the EIR because regional travel patterns are not expected to be affected by the proposed improvements. Origin/destination data will be developed through the traffic modeling effort which applies a maximum entropy algorithm to the traffic data. This algorithm considers land use (residential, commercial, industrial), existing traffic volumes, road capacity and the exit-to-exit origin/destination data for the study area.

- (4) The existing nature and extent of transit vehicle and HOV usage of the Turnpike should be documented. [JK]

Response: This is a clarification of the Work Plan issued in February 1987. Current commuting options, including transit vehicle and HOV (high occupancy vehicles) usage of the Turnpike and parallel services, will be documented in the EIR.

Projection of Future Conditions

- (5) Use of the Route 9 Corridor Model for travel demand forecasting is a concern. The chief concern is whether the methodology allows adequate consideration of the effect of Turnpike expansion on the Turnpike Extension and Route 128. This model supplies trips to and from other parts of the region



"exogenously", and therefore makes it difficult to analyze how increases in Turnpike capacity will effect travel or congestion in other parts of the region, particularly the Turnpike Extension, and possibly segments of Route 128 immediately north and south of the Turnpike. If in fact Turnpike expansion results in higher levels of congestion, less reliability, and more accidents on the Turnpike extension and on the segments of Route 128 North and South of the Turnpike, higher tolls and increased reliance on buses and other high occupancy vehicles might be the preferred alternative. [JK]

Response: The issue raised by this comment will be addressed in the EIR. The Route 9 Corridor Model encompasses an area which extends 3 to 5 miles on either side of the Turnpike and includes all Federal-Aid roadways in eight communities. The vast majority of the trips entering or exiting the Turnpike between I-495 and I-95 will have either an origin or destination within this corridor. Turnpike travel demand is therefore reflected accurately in the Route 9 Corridor Model.

The trips on the Turnpike which have both an origin and destination beyond the corridor study area will be estimated from a larger model. CTPS will produce a series of traffic assignments using a 164 community (eastern Massachusetts) model to quantify the impacts of the Turnpike capacity changes on the regional highway system. The information learned through the application of this larger model will be directly input into the smaller more detailed Route 9 model.

(6) Will future roadway improvement projects by the MDPW and area towns be considered in the transportation studies? [FT; LLG]

Response: This is a clarification of the Work Plan issued in February 1987. Through consultation with the MDPW and area towns, and by reviewing the MDPW's current Transportation Improvement Program (TIP), the project team will identify committed or planned roadway improvement projects which are expected to be in place by the analysis years - 1987, 1988, and 1995. These projects will be incorporated into the travel demand forecasts and traffic analyses.

(7) How does the Route 9 model take into consideration proposed changes to state policy aimed at eliminating left turns on Route 9 to encourage its use as a through-route? [FT]

Response: This is a clarification of the Work Plan Issued in February 1987. As indicated above, committed or planned changes to the affected roadway network will be incorporated into the transportation studies.

(8) EIR studies should generate information on the total number of vehicles expected; differentiate between trucks and cars; provide information on future truck types and vehicle mix [LLG; RL; MG]



Response: The Work Plan issued in February 1987 addresses this issue. Vehicles will be classified by: auto, van, light truck (four wheels); medium truck (six wheels); and, heavy truck (eight wheels or more).

(9) How will the traffic mix be determined in terms of cars, light trucks, heavy trucks, and motorcycles? [LLG; RL]

Response: The traffic mix will be determined by field measurements. Motorcycles will not be separately classified.

(10) How will projections for traffic volume be made in terms of mix on an hourly and day/night basis? [LLG; RL]

Response: Projections of traffic mix will be made for morning and evening peak hours, for night hours, and for 24-hours. These projections of traffic mix will be based on measurements of existing mix and historic trends in truck travel.

(11) The discussion of major traffic generators should include a complete enumeration of planned or projected future developments or expansions to existing facilities which could generate significant traffic, as well as zoning or other land use policies which could foster such development. Such analysis should include evaluation of any location or expansion of traffic generators in the corridor spurred by the project. [MG; JK]

Response: This is a clarification of the Work Plan issued in February 1987. An extensive land-use database is available for the Route 9 corridor as a result of the ongoing Route 9 corridor planning study. A similar database is being developed for the Route 20 corridor. Committed or planned development projects along the Turnpike corridor will be enumerated. This land-use data will be used in the traffic modeling process.

Changes in land-use induced by changes to an existing transportation system typically occur only if the accessibility to the areas served is expected to change as a result of the project by the addition of new links or interchanges. With regard to the Turnpike projects, such changes in accessibility are not proposed. The changes under consideration in this EIR will allow for improved accessibility to existing highway facilities by current and new development which will occur independently of the turnpike projects.

(12) Information should be supplied on the land-use forecasting model that will be used to predict population and employment changes, or of the extent to which its forecasts will be influenced by the proposed improvements. Such questions should be explicitly considered and quantified in the planned analysis. [JK]



Response: This is a clarification of the Work Plan issued in February 1987. The MAPC land-use forecasts used to predict population and employment changes are made by reviewing zoning, existing and proposed water and sewerage networks, and accessibility within the study area communities. Based on these reviews as well as past trends and regional forecasts, population and employment projections have been made at the community level and are now being broken down to the traffic zone level. This approach is appropriate for this project since no new highways or interchanges are being proposed which would change the accessibility of an area or the potential for development beyond that which would otherwise occur.

(13) There should be an assessment of the impact of project-generated traffic on safety in sensitive areas (e.g., school walking areas). [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Safety issues will be addressed.

Sensitive receptors/modeling locations

(14) Route 30 should be added to the list of regional highways to be analyzed in traffic studies. In addition, the interchange of Route 30 and I-95 should be analyzed. [LLG; MG]

Response: This is a clarification of the Work Plan issued in February 1987. Route 30 and the interchange of Route 30 and I-95 were inadvertently omitted from the list of regional highways. They are included in the transportation studies.

(15) There should be an assessment of several feeder roads in Weston - Winter Street, Wellesley Street, Oak Street, and Ridgeway Road. [MG; LLG]

Response: The issue raised by this comment will be addressed in the EIR to a great extent. Winter Street, Wellesley Street, and Oak Street are all on the Federal Aid Highway System and are included in the traffic modeling network. However, Ridgeway Road is a local road, is not on the Federal Aid System, and is not expected to experience changes in traffic volume as a result of the project. Therefore, it will not be included in the transportation studies.

(16) There is no intersection of Route 30 and I-495. Analysis should begin at Route 9 in Westborough. [LLG]

Response: The issue raised by this comment will be addressed in the EIR. The modeling network extends to the Route 9/Route 30 intersection.



Development of alternatives

(17) Why is a barrier toll needed? Has the Turnpike Authority evaluated collecting tolls solely at toll ramps? [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. There is an immediate need to expand toll collection capacities at a number of interchanges in the project area. Feasibility studies of expanding the existing toll plazas have shown that severe restraints on expansion exist, particularly at Interchanges 13, 14 and 15. The planned barrier system allows for the removal of toll collection facilities at Interchange 13 and part of Interchange 12. It also allows for the conversion of toll collection methods at Interchanges 12, 14, and 15 from their present ticket system to a fixed fee coin system. The barrier system eliminates the need for expansion of the interchange ticket system.

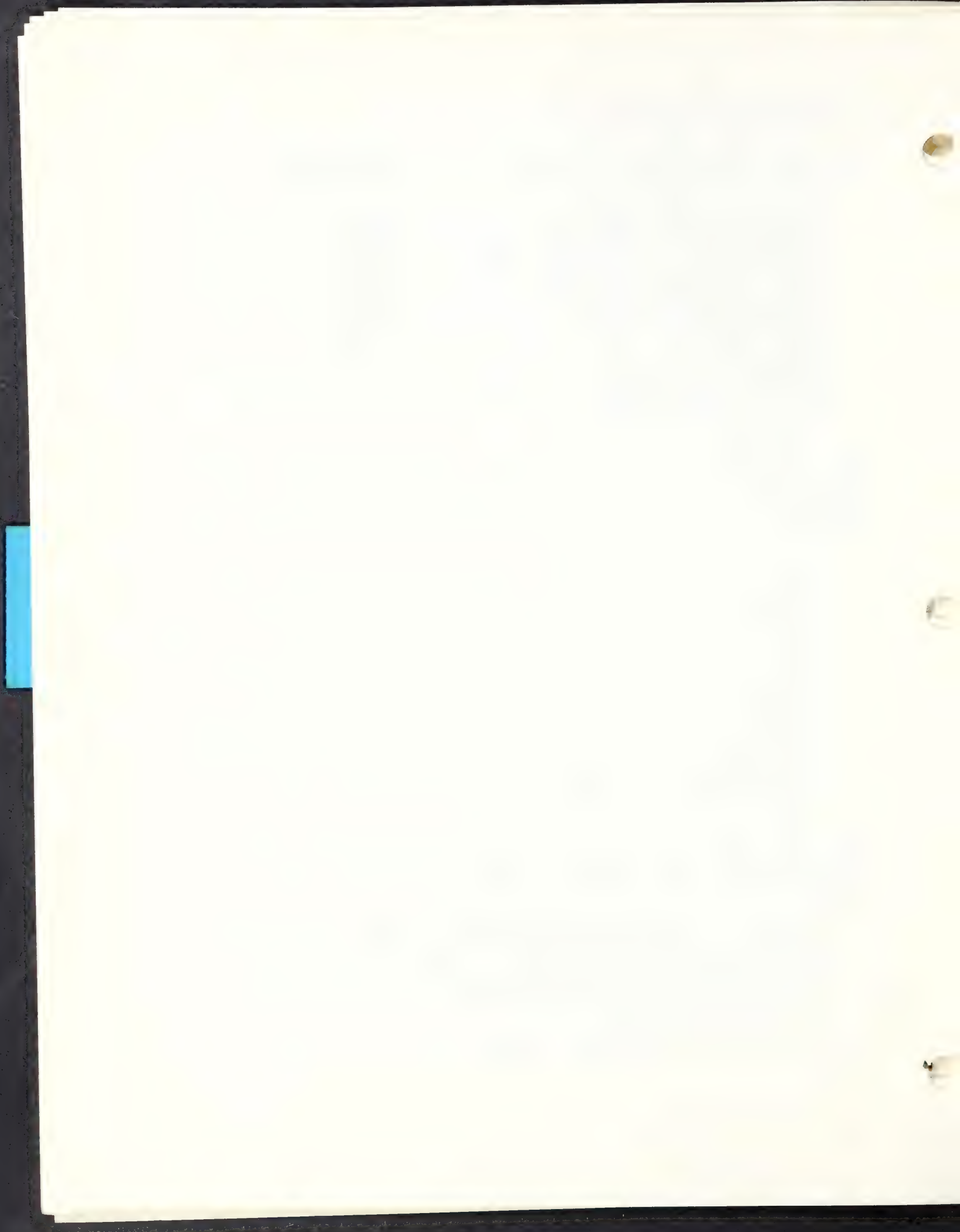
(18) The EIR should study a barrier toll location west of Route 495. The alternatives presently under study will not address current and future congestion already being experienced at the 495/I-90 Interchange. Since increased development is projected in this area, such congestion can be expected to increase. [LLG]

Response: The issue raised by this comment will not be addressed in the EIR. The planned barrier toll system is designed to alleviate congestion on the Turnpike east of I-495. This portion of the Turnpike consistently experiences high levels of congestion and is a priority of the Authority's overall improvement program. The Authority is aware of congestion at the I-495 interchange and currently implements operational measures aimed at minimizing this congestion. Roadway improvements to the I-495 interchange are currently in the engineering feasibility stage. No environmental determinations have yet been made. The I-495 interchange is not part of the Turnpike "sub-system" east of I-495 and must be viewed independently of the EIR program for reasons of toll equity.

(19) The discussion of alternative toll collection scenarios should include a treatment of differences in their environmental impact, and of safety hazards inherent in in-line toll collection. [MG]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. Alternative toll collection schemes will be documented in the EIR to the extent needed to determine engineering feasibility.

The EIR will include an evaluation of traffic safety.



(20) The EIR should include an analysis of potential for greatly increased use of the Massachusetts Turnpike and Turnpike Extension by buses and other high-occupancy vehicles, particularly during peak hours, as either a complement or substitute for the program. Such a study should include: fundamental reexamination of the current level and structure of tolls; desirability/feasibility of expanding existing transit services and adding new ones; possibility of adding bus-only ramps to improve door-to-door travel times of some services; feasibility of using toll surpluses to subsidize expanded express bus services between Boston's western suburbs and downtown and/or other high density job centers. [MG; JK]

Response: The issues raised by this comment will be addressed in the EIR to the extent that the Authority's enabling legislation and bonding requirements permit. The EIR will include a discussion of the usage of transit and HOV usage of the Turnpike and parallel services. The addition of bus-only ramps to the Turnpike, which would require properly designed acceleration and deceleration lanes and could result in adverse environmental impacts, will not be addressed in the EIR.

(21) The EIR should include an analysis of several other alternatives: reversible lanes; elimination of the truck-climbing lane; delay in the project until completion of the Central Artery projects. [MG]

Response: The issues raised by this comment were considered by the MEPA Unit of EOEA during the ENF review period and were not included in the EIR Scope. The transportation studies will, however, contain a general discussion of the appropriateness of reversible lanes.

The truck-climbing lane is designed to accommodate existing truck traffic on the Turnpike. It will have a positive impact on traffic safety and vehicle emissions.

The proposed projects are needed to alleviate current and future congestion and safety problems. They will be beneficial to the transportation system long before the Central Artery project is constructed.

(22) Discussion of options should include an analysis of bridge deck widening at Speen Street with and without underpass widening. [FT]

Response: Alterations to the Turnpike bridge over Speen Street necessitated by a widening of Speen Street are the responsibility of the Speen Street project proponents. However, the Authority will review this issue further as a Speen Street improvement project is developed. The Authority will coordinate its design activities with those of the Speen Street project proponents.



B. Air Quality

Existing conditions

(1) Is the Authority aware of the current air quality impacts caused by trucks idling at Service Area 8E and the potential for increases in air quality problems caused by additional truck parking spaces? Is the Authority considering such mitigation measures as enforcing the five minute idling law? [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. The Authority is aware of and sensitive to the problems caused by trucks idling for long periods of time. Carbon monoxide impacts of the Service Area and the Turnpike will be modeled on near-by sensitive receptors. Truck idling laws are being enforced.

(2) Current measurements of carbon monoxide ambient concentrations should be presented for locations near the Turnpike. [MG/JF]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. It will not be addressed in the EIR. We have consulted DEQE and they have agreed that the measuring of ambient carbon monoxide (CO) levels is not necessary for this project. Maximum CO levels will be predicted using a conservative modeling protocol that has been approved by the DEQE. Specifically, the approach assumes simultaneous occurrences of the following:

- peak 1- and 8-hour traffic;
- worst case emission rates as predicted by the EPA MOBILE3 model;
- worst-case dispersion conditions as predicted by the EPA CALQ3 model;
- complete persistence of the worst-case wind speed, wind direction, and atmospheric stability conditions over an 8-hour period (i.e., no credit taken for changes in meteorology conditions);
- conservative background levels.

(3) Data should be presented on existing conditions with regard to ozone. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The entire state is classified as nonattainment for ozone, and DEQE measurements of ozone levels in the region will be presented. Since this problem is specifically not a local phenomenon, but involves regional emissions, the proper means for assessing the project's impact on ozone formation is the mesoscale Non-Methane Hydrocarbon analysis. The scope of work is designed to satisfy "Transportation Project Review Consistency Criteria" set forth in the 1982 State Implementation Plan.



Projections of future conditions

- (4) To what extent will the air quality impacts of the intersection of Route 128/I-95 and the Turnpike be examined? [LLG; MG/JF]

Response: The Work Plan issued in February 1987 addresses this issue. The mesoscale analysis will examine Route 128 between Route 135 in the south and Route 20 in the north. The microscale analysis will examine carbon monoxide concentrations at the intersection of Route 128/I-95 and the Turnpike.

- (5) Both ozone and carbon monoxide air quality impacts must be analyzed. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The EIR will address both ozone impacts (through the mesoscale NMHC analysis) and carbon monoxide (through the microscale analysis).

- (6) The project's effects on compliance with standards for total suspended particulates (TSP) should be determined since construction can generate airborne dust. [MG]

Response: The issue of modeling construction impacts raised by this comment will not be addressed in the EIR. The ambient TSP standards, used in permitting stationary sources, are not used to evaluate such temporary sources of fugitive dust as construction activities. Construction impacts are regulated under 310 CMR 7.09, which focuses on measures to prevent excessive emissions of particulate matter. As requested by the DEQE, the air quality study will suggest specific mitigation measures to control fugitive dust. MEPA does not require a TSP analysis as part of the study.

- (7) The mesoscale analysis should include emissions from the Turnpike Extension. [MG/JF]

Response: The issue raised by this comment will be addressed in the EIR. The Turnpike Extension has been added to the mesoscale analysis area. This change has been approved by the DEQE.

- (8) A request was made to do salt particle modeling [MG/JF]

Response: The issue raised by this comment will not be addressed in the EIR. There are no MEPA or DEQE requirements to perform a salt particle analysis. The Turnpike Authority is attempting to minimize salt applications consistent with public safety. The Authority is also considering other salt reduction programs and studies.



Sensitive receptors/modeling locations

(9) A sufficiently large number of sensitive receptors should be selected to insure an adequate delineation of carbon monoxide air quality problems. This should include Weston High School. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The selection of sensitive receptors follows EPA criteria that they be located where maximum CO levels are anticipated and in areas to which the public has access and congregates. Public comment on receptor locations was received during the review period for the Work Plan. The consultant for the Town of Weston was invited to submit a list of receptors by March 30. All receptor suggestions will be considered, and the final list will be reviewed and approved by the DEQE. It will then be provided to LLG members.

(10) In addition to looking at sensitive receptors, the air quality analysis should look at hot spots. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Sensitive receptors are grouped around microscale "hot spots". These are the roadway intersections tied to Turnpike operation, toll booths, and Turnpike mainline sections carrying heavy traffic volumes. These areas have been identified in the Work Plan and at meetings. DEQE has reviewed and approved the microscale locations.

Mitigation measures

(11) What are mesoscale mitigation measures? What types of mitigation measures could be developed for Service Area 8E? [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. When modeling has been performed and if impacts are identified, possible mitigation areas and mitigation plans will be developed. Typical mitigation measures for parking lots include moving parking spaces, decreasing the number of spaces, and spreading out spaces.

(12) Has the Turnpike Authority considered decreasing the number of lanes or modifying its staffing practices at the toll plaza as a mitigation measure? [MG/JF]

Response: The size of the proposed toll plaza is based on projected travel demand; the Turnpike Authority currently staffs the toll plazas to minimize congestion.

(13) A suggestion was made for a need to mitigate, even if in a future year a decrease in NMHC emissions is shown. [MG/JF]

Response: The issue raised by this comment will not be addressed in the EIR. The scope of work is designed to



satisfy "Transportation Project Review Consistency Criteria" set forth in the 1982 State Implementation Plan. These criteria require "all reasonable and feasible HC reduction/mitigation measures" in cases where HC emissions will increase due to a project. There is not a similar requirement in the case where the project will decrease emissions.



C. Noise

Existing conditions

(1) How can citizens know whether noise measurements taken on a given street measure the noise experienced by the houses closest to the Turnpike? [LLG]

Response: The noise measurement program will examine such "worst case" locations as the back yards of houses adjacent to the Turnpike. However, the program also examines the shielding effects of the first row of those houses further from the Turnpike.

(2) Sufficient measurements of noise levels should be made at various distances from the highway, with simultaneous traffic counts to validate the noise prediction model. [MG]

Response: The issue raised by this comment will be addressed in the EIR. Noise measurements will be conducted at many locations and at various distances from the Turnpike, and simultaneous traffic counts will be conducted during many of those measurements. The traffic counts will be used as input to the noise prediction model, and the results will be compared with the measured noise levels. If good agreement is not obtained, assumptions about propagation, shielding, and traffic flow conditions will be examined so that any differences can be understood. The model will be "calibrated" by making adjustments to the assumptions made, if appropriate.

(3) Seasonal variations, effects of foliage and ground cover should be considered. [LLG; MG; RL]

Response: This is a clarification of the Work Plan issued in February 1987. The assessment will predict noise levels appropriate to the spring, summer, and fall seasons. During these seasons, sensitivity to noise is usually greatest, because residents are most likely to be outdoors or have windows open. Carefully controlled studies have shown that foliage on trees has no significant effect on traffic noise propagation. Ground cover will be properly accounted for in the measurements and the modeling. Measurements will be conducted when the ground is unfrozen and free of snow, and modeling will account for the difference between "soft" and "hard" ground.

(4) Will interior noise be evaluated? There are currently situations in which a person cannot be heard from kitchen to dining room. [LLG]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. It will not be addressed in



the EIR. Interior noise levels are not normally addressed because of several factors: 1) FHWA procedures require only exterior noise analysis except where no outdoor activity occurs, 2) if noise impact occurs indoors, it usually also occurs outdoors, and if noise abatement is designed for exterior activity, it usually provides similar benefit for interior activity, 3) noise levels measured indoors are highly dependent on building construction and interior furnishings, and cannot usually be generalized to neighborhoods, as are noise levels measured outdoors.

(5) Will the study consider the particular noise impacts of out-of-state trucks? [LLG]

Response: The issue raised by this comment will not be addressed in the EIR. However, the noise measurement program will incorporate noise levels from all trucks (including out-of-state) using the Turnpike. The noise model uses national reference energy mean noise emission levels for all trucks; these have been shown to be representative of the truck mix on most US highways.

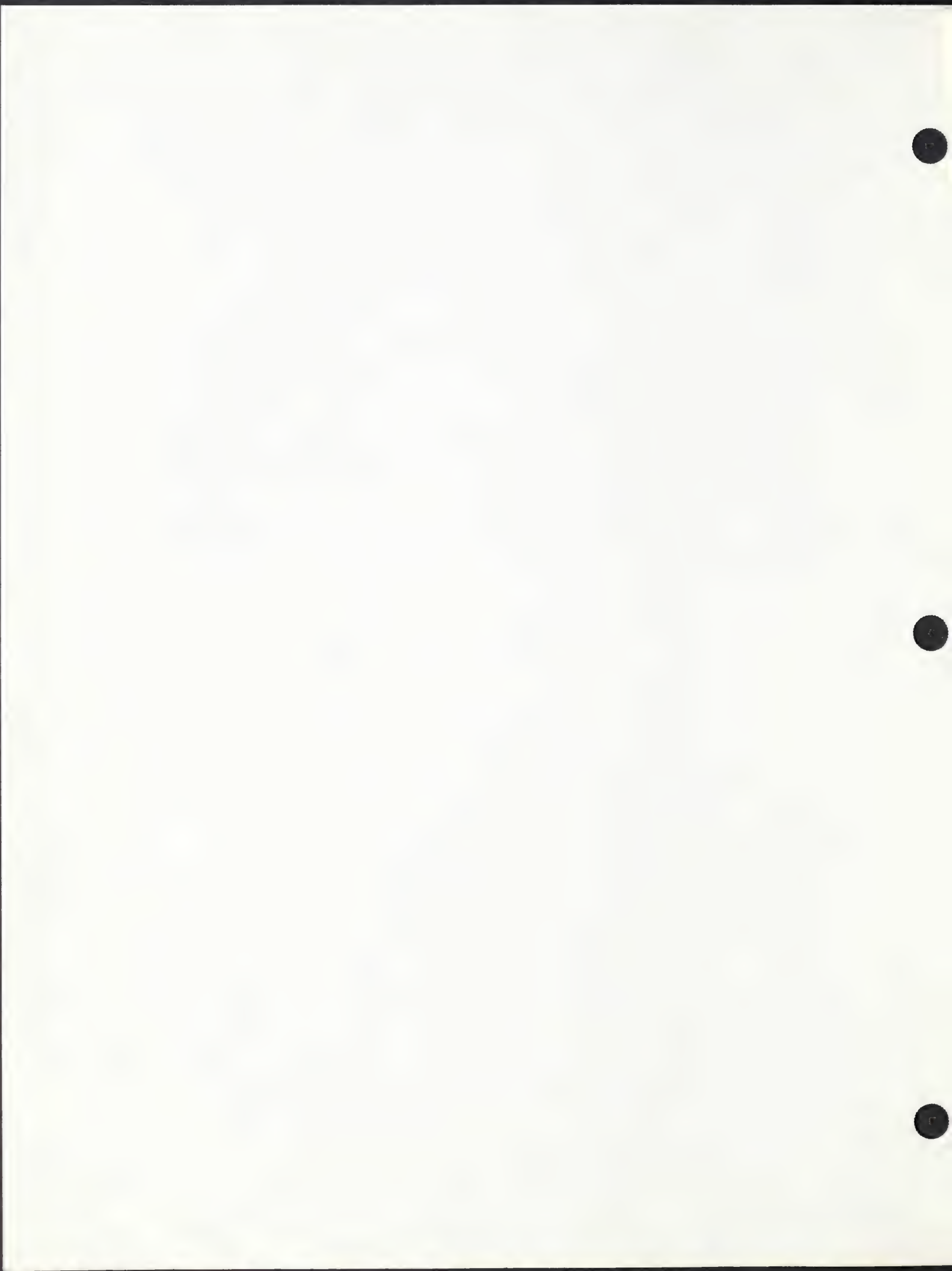
(6) Ambient noise levels should be presented for day, evening and night, and should show both average and peak noise levels. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Long-term monitoring sites will be selected near the Turnpike with measurement periods of approximately 24 hours. These sites will provide information on the diurnal patterns of noise levels in the study area. Noise level data will include maximum noise levels (L_{max}) as well as average noise levels (L_{eq}). Analysis of the long-term noise data will yield average and maximum noise levels for daytime, evening and nighttime periods separately. These data will also indicate which hours of the day are the noisiest, and will assist the development of the worst-hour traffic data for the future years.

(7) Information should be developed on the noise that could be expected in a similar residential community without the Turnpike. [MG/RL]

Response: The issue raised by this comment will be addressed in the EIR. Information from the literature will be provided about noise levels in typical residential areas away from major noise sources; these typical levels will be compared to study area noise levels.

(8) Data should be obtained on existing levels of noise from sources other than the Turnpike, such as other roads and aircraft, so that the cumulative impact of the proposed expansion and the existing roadway may be determined. [MG; RL]



Response: This is a clarification of the Work Plan issued in February 1987. Data will be collected about noise associated with sources other than the Turnpike. Noise measurements will differentiate aircraft noise from Turnpike noise when it is significant. Also, noise measurement locations will be chosen that are near other local roadways, and noise from those roads will be included in the measured levels. Total noise levels will be reported as well as the noise levels dominated by the Turnpike.

Projection of future conditions

(9) The noise model should reflect highway grades, so that the noise of trucks accelerating, climbing and descending is reflected. [MG]

Response: The Work Plan of February 1987 addresses this issue. The highway noise prediction model (STAMINA 2.0) does include an adjustment to heavy truck noise emission levels for trucks on grades.

(10) Information was requested on the STAMINA model, particularly whether calibration will be done. [MG/RL]

Response: The STAMINA model will be "calibrated" by comparing measured noise levels to STAMINA predictions. See response to question 2 for further explanation.

(11) How will the worst noise hour be determined? The peak traffic hour is not necessarily the peak noise hour, due to the high noise impact of trucks. [MG]

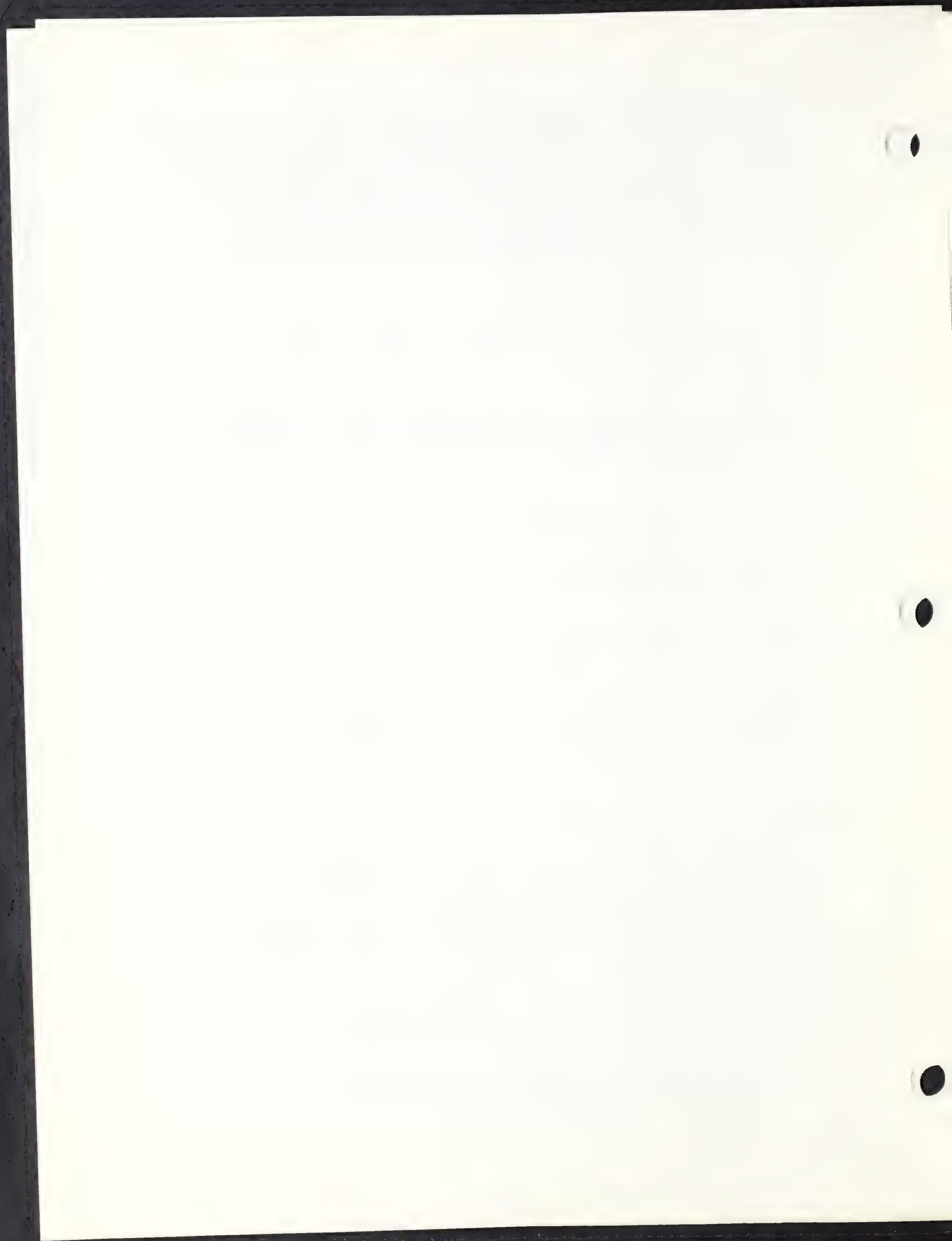
Response: The worst noise hour will be determined by examining the noisiest hour observed during the 24-hour noise measurement periods, and by examining hour-by-hour traffic patterns on the Turnpike.

(12) Noise due to pavement types, bridge expansion joints, and truck lanes should be assessed. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The noise levels and physical characteristics of pavement type and bridge expansion joints will be observed during the noise measurement program. These elements will then be addressed in the model calibration process. Noise associated with truck lanes will be measured in the field and properly modeled with STAMINA.

(13) Modeling should reflect the adverse effects that wind conditions can have on barrier effectiveness. A "worst case" scenario should be developed using adverse wind conditions. [MG]

Response: The issue raised by this comment will be addressed in the EIR. An assessment of the effects of wind on barrier performance will be conducted.



(14) On what computer will the noise model be run? [RL]

Response: Harris Miller Miller & Hanson Inc.'s Digital Equipment Corp. MicroVAX II will be used to run the noise models.

(15) Construction noise should be predicted and evaluated. This discussion should describe the construction access routes to be used; enumerate both the kinds of construction equipment to be used and the construction schedule to be used; specify the numbers of each type of equipment; discuss how many of these pieces of equipment might be in operation simultaneously during construction; and predict the impact of all of this on outdoor and indoor noise levels at various distances from the construction area. [MG; RL]

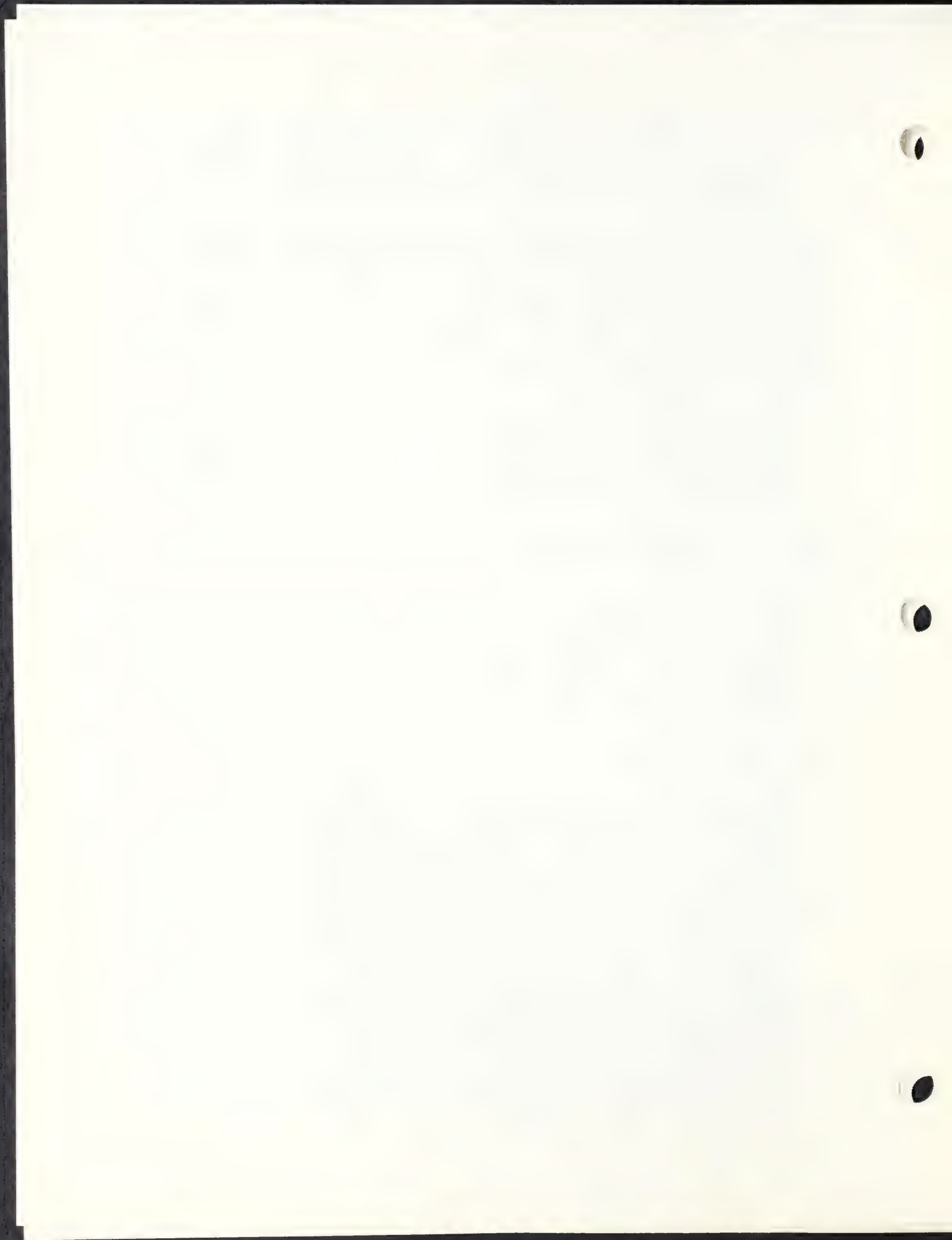
Response: This is a clarification of the Work Plan issued in February 1987. A construction noise analysis will be conducted and typical work and equipment use scenarios will be developed. Construction-related noise levels will be predicted in nearby noise-sensitive areas.

(16) There should be analysis of the noise impacts of snow removal operations in Weston, particularly those conducted at night. [MG]

Response: The issue raised by this comment will be addressed in the EIR. A literature review will be conducted to identify noise emission levels from snow plowing operations, if available. Based on these findings and discussions with the MTA about the nature of the nighttime plowing operations, maximum nighttime pass-by noise levels will be predicted.

(17) How will the effects of flow conditions on noise be determined and quantified? [RL]

Response: The analysis of the worst noise hour will necessarily use freely-flowing traffic conditions, since the highest noise levels adjacent to a highway are generated under these conditions. The effects of truck lanes will be addressed and modeled with appropriate emission levels and speeds. The effects of accelerating vehicles near the toll plazas will be addressed separately. Modifications were made to the FHWA noise prediction model for the Callahan/Sumner toll plaza as part of the Third Harbor Tunnel Project. Using this model, noise levels will be predicted for the Massachusetts Turnpike toll plazas using traffic data counted during the noise measurement program. These predicted levels will be compared with the levels measured at the Turnpike toll plazas. If good agreement is found, the modified noise model will be used for the noise predictions at the existing and proposed toll plazas along the Massachusetts Turnpike. If good agreement is not found, the measured data will be used to develop an appropriate noise prediction model.



Sensitive receptors/modeling locations

(18) Several additional streets in the vicinity of the alternative barrier toll plaza sites in Southborough should be added to the list of preliminary noise measurement areas. [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. If it is determined that there is a feasible site for location of the barrier toll plaza, detailed studies, including noise impact and mitigation analyses, will be conducted.

(19) Several additional streets in Natick should be added to the list of preliminary noise measurement areas: Hammond Road/Avenue; Main Street (North and South); Langdon Road; road off Pine; Wayland Town Beach (N. Lake); Oak Street (from Pine to Route 30); Nancy Road (off Winter in back of Oak Street); Rivers Country Day School.

Response: The issue raised by this comment will be addressed in the EIR. All these areas will be examined before finalizing the list of measurement locations.

(20) Several additional streets in Wayland should be added to the list of preliminary noise measurement areas: Haven Lane (off Timber Lane); Route 30 (adjacent to the Turnpike); Clubhouse Lane. [LLG]

Response: The issue raised by this comment will be addressed in the EIR. All these areas will be examined before finalizing the list of measurement locations.

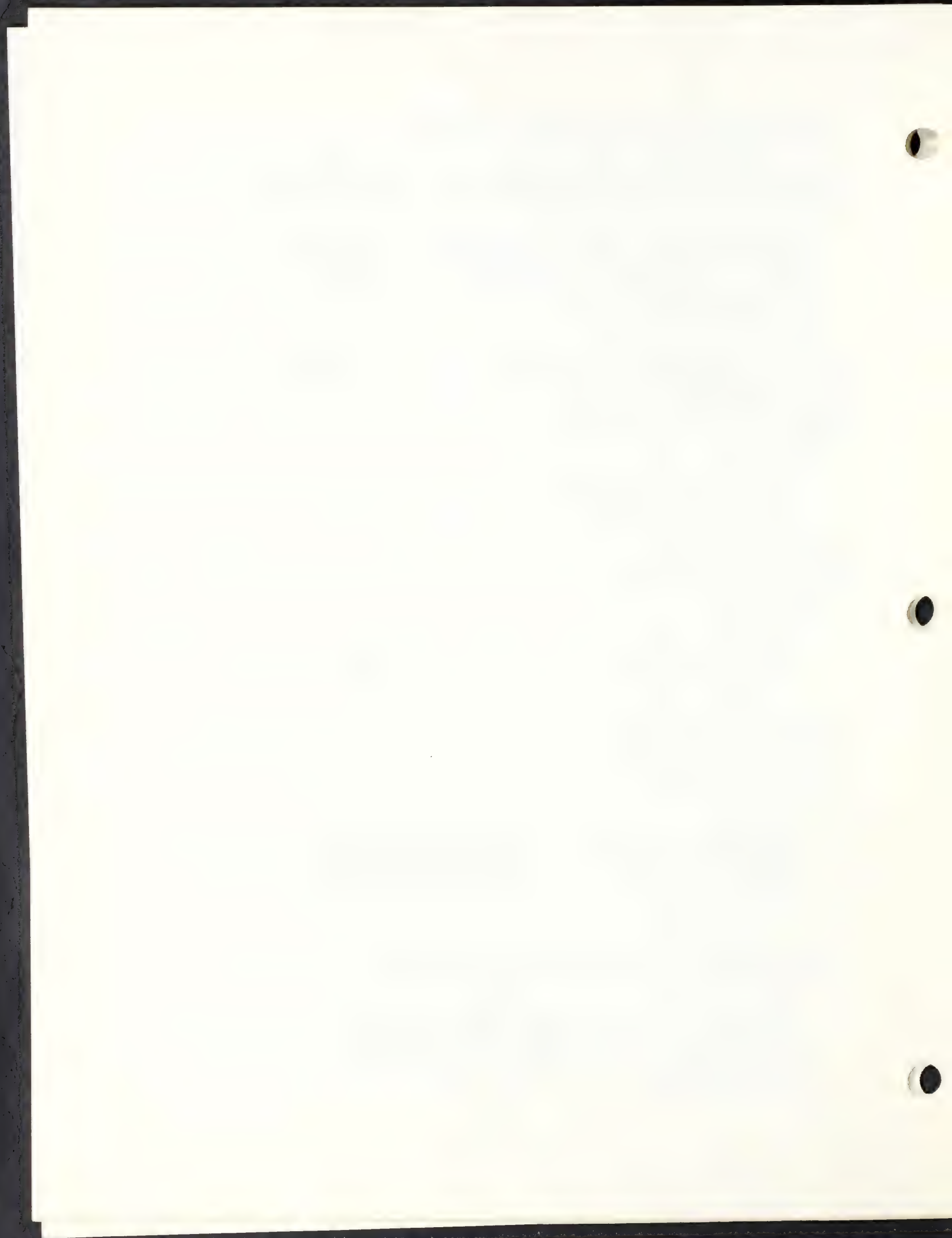
(21) A list of sensitive receptors in Framingham includes: Marist House, a spiritual life center and retirement community (west of Temple Street overpass); St. Patrick's Manor, a nursing home abutting Turnpike property off Central Street; Juniper Hill elementary school. [FT]

Response: The issue raised by this comment will not be addressed in the EIR. The noise measurement program will not include the sites mentioned since no changes to the existing Turnpike facility are proposed in these areas.

Other Noise Issues

(22) Reference was made to a memorandum containing noise-related questions dated December 26, 1986. [MG/RL]

Response: The majority of the questions included in this memorandum were addressed in the Work Plan of February 1987 and are not repeated here. Those questions and comments that were not addressed in the Work Plan have been addressed in this document.



D. Ground/Surface Water Supplies

- (1) Water quality of private water supply sources should be adequately assessed, particularly with regard to sodium levels. [LLG; MG/JD; DEQE]

Response: The issue raised by this comment will be addressed in the EIR. A program of analyzing sodium and chloride in representative private wells is being prepared. Wells up to 500 feet from the Turnpike will be considered for inclusion in the program. Consultation with DEQE will be held after receipt of the results of the analysis.

- (2) Testing should be done of a small stream which flows from the Weston High School under the Turnpike into the Blaney aquifer, a potential municipal supply source. [MG/JD]

Response: The issue raised by this comment will be addressed in the EIR. This stream has been added to the sampling program.

- (3) The study should include installing monitoring wells between the Turnpike and the proposed Blaney well. [MG/JD]

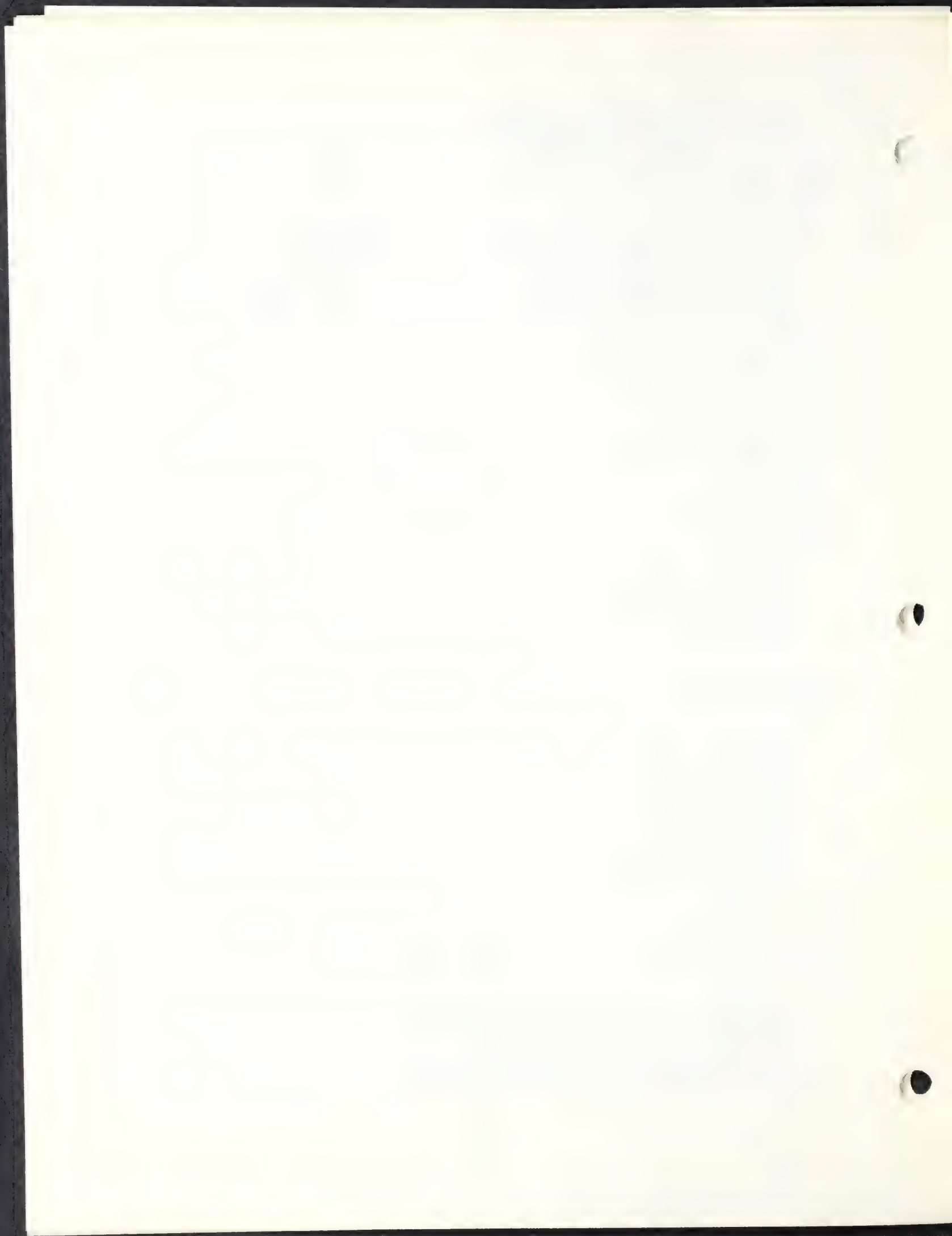
Response: The issue raised by this comment will not be addressed in the EIR. Monitoring wells will not be installed because the Town of Weston has the responsibility for fulfilling this DEQE requirement for a "Zone 2 analysis" of the potential well.

- (4) How will data on groundwater quality be collected? The EIR should reflect a full program of groundwater sampling, and should present a model of regional ground water flow. [MG; DEQE; JD]

Response: This is a clarification of the Work Plan issued in February 1987. Data on groundwater quality at public wells will be collected from existing data sources. The quality of private water supplies will be obtained by sampling representative private wells. The number and location of these wells are being determined at this time. Analyses will be conducted for sodium and chloride, and assessments will be conducted to determine the impact to regional groundwater conditions using a sodium model.

- (5) The EIR should show whether the project will affect the ability to reopen wells which have been closed due to salt contamination, e.g. the Fitzgerald wells. [MG]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. It will not be addressed in the EIR. Because of de-icing Route 128, Route 30 and local roads, the conditions in the Nickerson and Fitzgerald well fields are not totally attributable to the operations of the



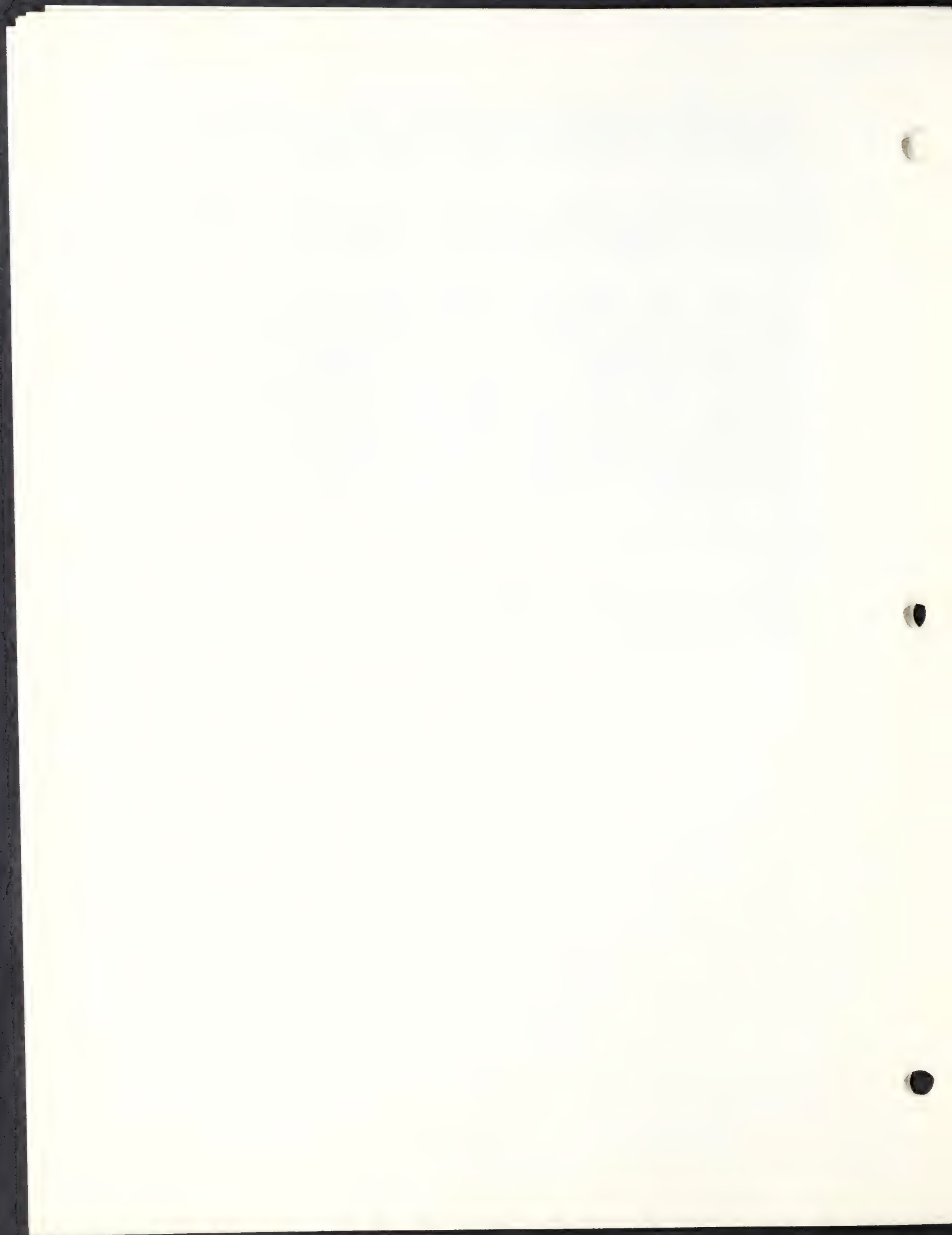
Massachusetts Turnpike. In addition, the Authority and the Massachusetts DPW made a settlement with the Town in 1980 for loss of use of the wells, covering all present and future claims.

- (6) The EIR should include an evaluation of solvents (materials on the 624/625 list) and an EP Toxicity test should be done on bituminous to determine whether benzo-pyrenes would be released when pavement is torn up. [MG/JD]

Response: The issue of hazardous materials, raised by these comments, was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. It will not be addressed in the EIR. Pavement is not a hazardous substance, thus there is no reason to conduct an EP Toxicity test. Existing information on leaching of pavement indicates there is no adverse impact on receiving waters from the material. Conducting analyses for the 624/625 parameters would not serve any useful purpose because some of these parameters are by-products of fuel combustion and it would not be possible to discern the source of the parameters in the event they were found in the analyses.

- (7) The monitoring program should include MWRA Reservoir No. 3 in Framingham. [FT]

Response: The issue raised by this comment will be addressed in the EIR. Studies to determine impacts due to proposed increased pavement area at Interchange 12 will be conducted.



E. Surface Water Quality

Projection of future conditions

(1) The effect of sedimentation caused by project construction should be predicted. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. An erosion and sedimentation control plan will be prepared for each area of construction.

(2) A drainage plan for the project, including existing culverts, should be presented. Some of the culverts should be monitored and an explanation should be given of how the project would affect drainage at Weston High School and Weston Middle School. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Surface water monitoring of tributaries is underway at this time, however there are no plans to monitor individual culverts. A drainage plan for the project will be prepared, and the impact of the project on the Weston School complex will be reviewed. This last item is an addition to the Work Plan.

(3) The project's crossing of Lake Cochituate should be described and the environmental impacts of that crossing should be determined. [MG]

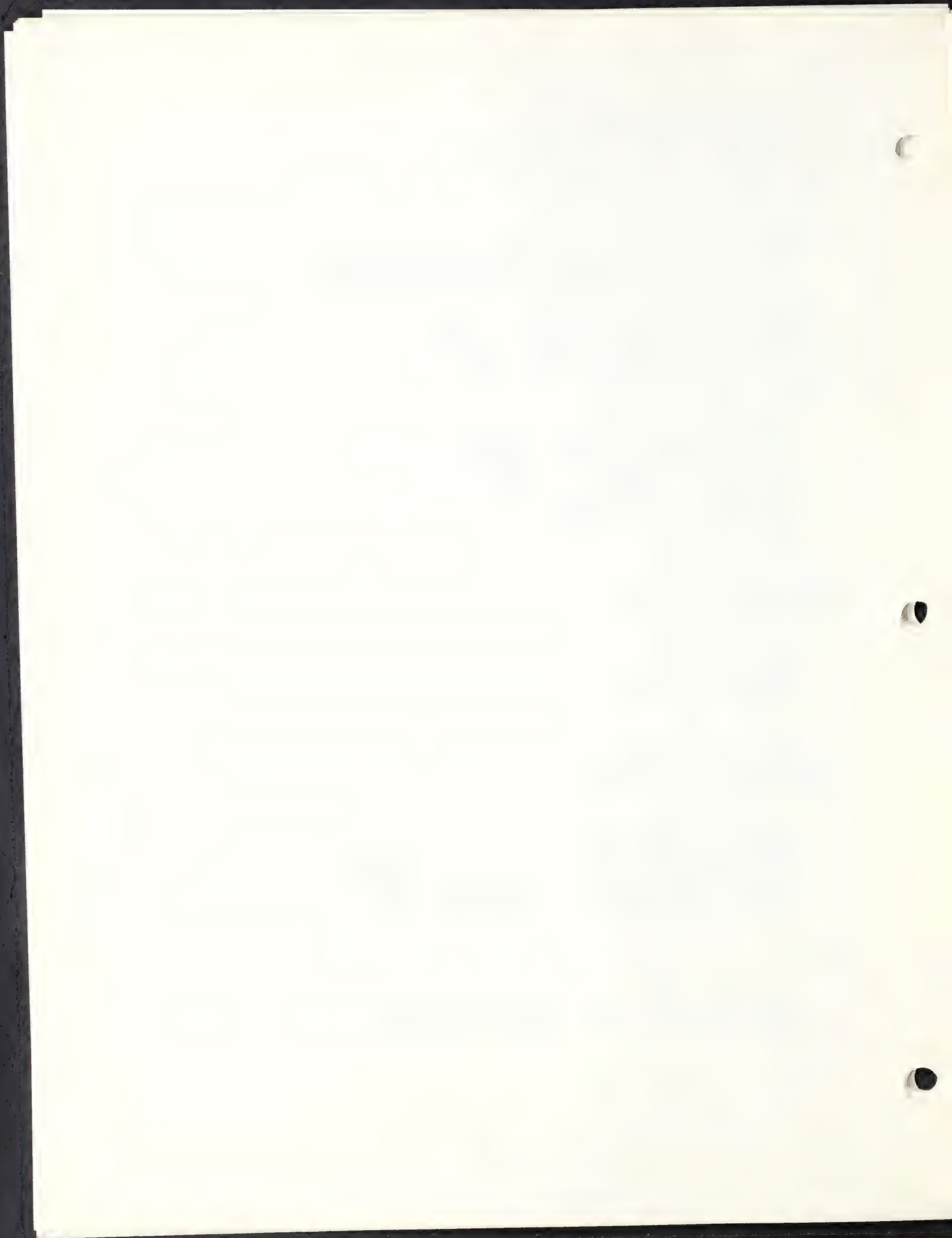
Response: This is a clarification of the Work Plan issued in February 1987. The EIR will evaluate impacts related to the Lake Cochituate crossing, including design refinements to minimize impacts.

(4) A drainage and treatment system (e.g. storm sewers and desalinization apparatus) should be considered to insure that salt-contaminated runoff does not enter sensitive ground or surface waters. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Various mitigation measures will be considered including diversion of runoff, a low flow runoff system, reduction of de-icing chemicals, a closed drainage system and others, as appropriate.

(5) The applicable water quality standards should be set forth. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Water quality standards will be included in the EIR.



(6) The presence of fish and benthic life should be determined and described. [MG]

Response: The Work Plan issued in February 1987 addresses this issue. Existing data on fish and benthos will be collected and included in the EIR. Since the proposed project is the widening of an existing facility, this is considered an appropriate approach.

Surface water monitoring program

(7) The surface water monitoring program should include the Sudbury River in Framingham. The segment of the Sudbury River flowing adjacent to the Turnpike contains several town-owned parcels of conservation land. In addition, a study of the Sudbury River is currently being undertaken as part of the DEM's Bay Circuit Greenbelt Program. The study, being conducted by IEP, Inc., includes a water quality study which the commentor recommended should be coordinated with that of the Turnpike Improvement EIR. [FT]

Response: The issue raised by this comment will not be addressed in the EIR. Each of the areas mentioned is outside the areas where construction will take place.

(8) The monitoring of Seaverns Brook should include an analysis of the impact of Turnpike runoff on the Charles River. [LLG; MG]

Response: The issue raised by this comment will be addressed in the EIR. The level of impact to the Charles River from Seaverns Brook will be addressed by calculating changes in concentration of a number of traffic-related pollutants.

(9) Sampling should be conducted of the Norumbega Reservoir. [MG]

Response: The issue raised by this comment will not be addressed in the EIR. The Turnpike roadway surface is below the elevation of Norumbega Reservoir so that drainage cannot enter the waterbody. Roadway drainage may, however, enter the small pond at the base of the reservoir which is the headwater for Seaverns Brook. Seaverns Brook is included in the study in the vicinity of Interchange 14.

F. Wetlands

(1) What measures will be studied to avoid damaging wetlands associated with Lake Cochituate? [LLG]

Response: The feasibility of reducing wetlands impacts through design is being explored. This includes steepening side slopes and using part of the existing median to obtain the necessary pavement width. Any unavoidable impacts will be mitigated in accordance with standards set forth in the State Wetlands Protection Act Rules and Regulations (310 CMR 10).

(2) How will the Authority limit damage to Cedar Swamp in Westborough, a major wetland resource? [LLG]

Response: The study will determine the extent of any impact on Cedar Swamp. Any identified impact will be limited through design and mitigated to the fullest extent possible.

(3) What role will the Army Corps of Engineers play in the review and approval of any wetlands impacts associated with the program? [LLG; MG]

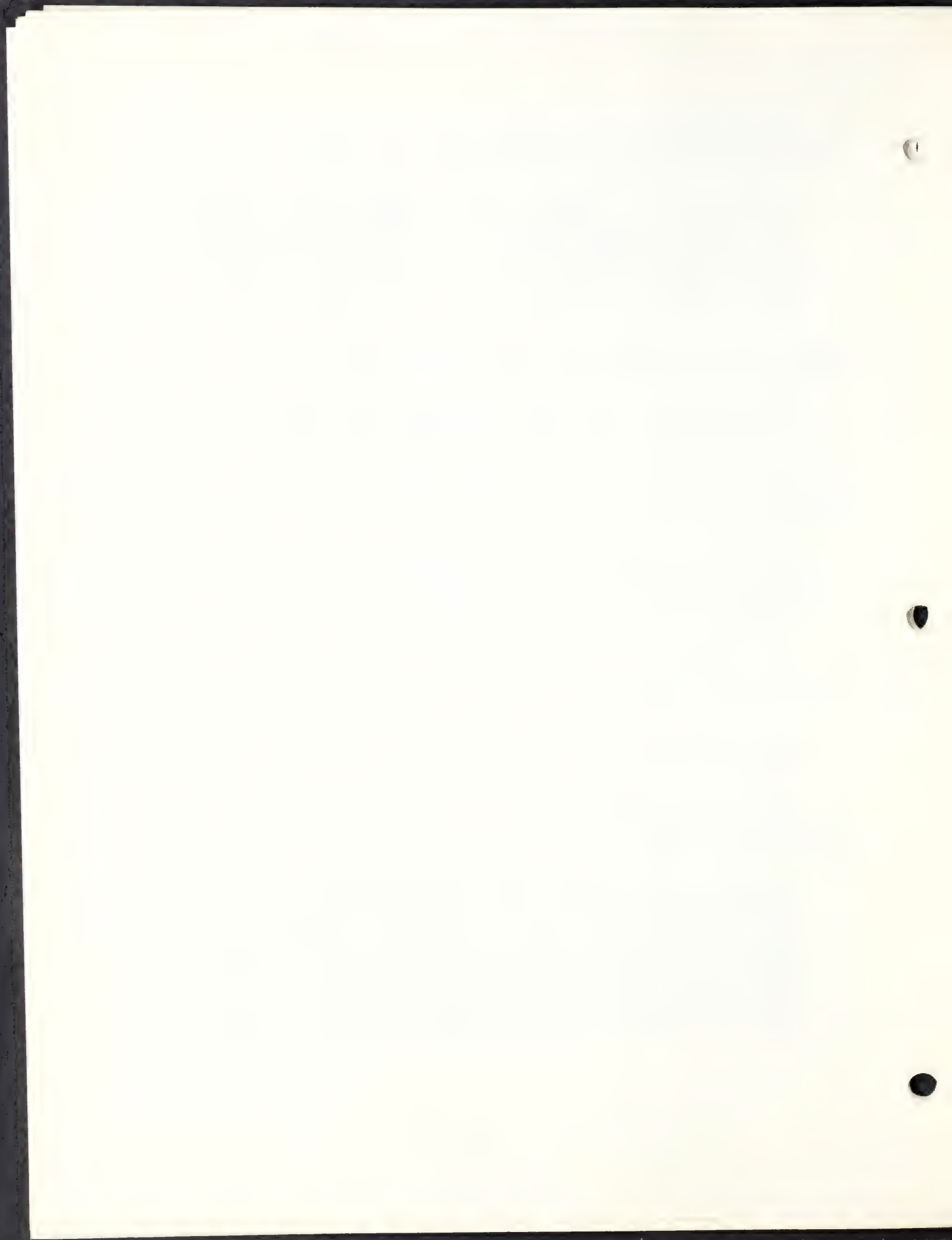
Response: The US Army Corps of Engineers has jurisdiction over any filling which occurs within waters of the United States, including wetlands. Discussions with the Corps are in process to determine the applicability of certain Nationwide Permits to the proposed project.

(4) The habitat inventories should rely not just on pre-existing data for the area, but should utilize current, site-specific observations. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. Field investigations of the site will occur to identify community types.

(5) The presence of threatened or endangered plant or animal species should be determined, based on actual on-site observations. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. During field investigations, special note will be made of any observed threatened and endangered species or species of special concern. Information obtained, such as the "Botanical Analysis of Lands for Proposed Expansion of the Massachusetts Turnpike" by P.M. Brown, will be reviewed. Coordination with the Massachusetts Natural Heritage Program and/or the US Fish and Wildlife Service will occur for any identified species which may be affected.



G. Light Impact

(1) The Town of Westborough is opposed to the use of sodium vapor lights at the proposed new barrier toll plaza. [LLG]

Response: This issue will be addressed in the EIR.

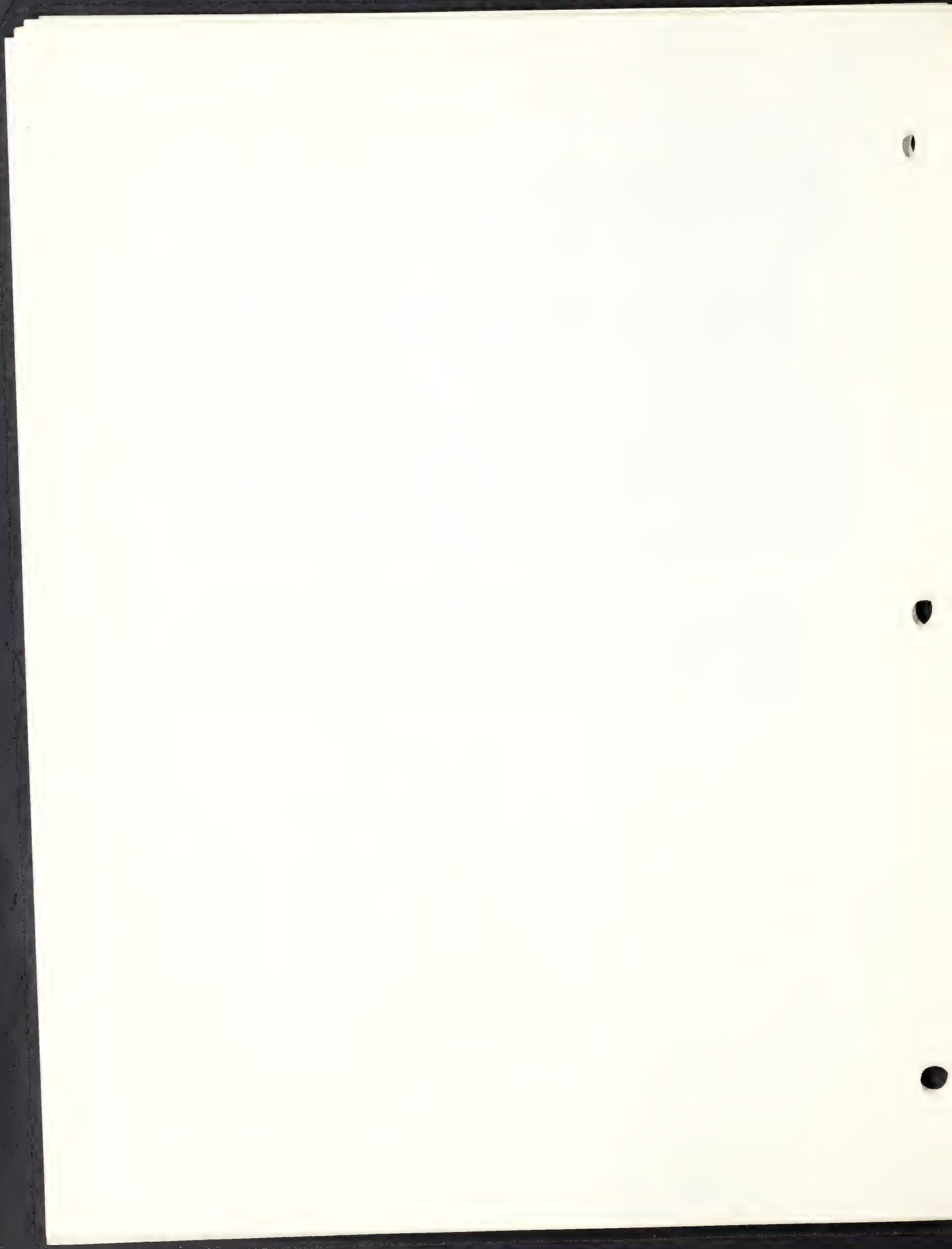
H. Recreation

(1) Several areas of recreational significance in close proximity to the Turnpike in Westborough were mentioned: land owned by the Sudbury Valley Trustees off Flanders Road used for passive recreation; land near Walnut Street and Route 30; an eighty-acre site near Breakneck Hill Road. [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. If any of the alternative locations being screened for the toll plaza are determined to be feasible, then the recreational facilities within one mile of the site, including these, will be included in the study.

(2) Several areas of recreational significance in close proximity to the Turnpike in Framingham were listed: Temple Street playlot (1.8 acres); Juniper Hill elementary school (3 acres developed for recreational purposes and possibility for significant expansion of facilities abutting the Turnpike); Reardon Park (3 acres with potential for expansion; adjoins Cochituate Brook conservation area, which in turn abuts the Turnpike); North High School/Winch Park (identified in Work Plan); Marist House Property (28.6 acres with potential for future recreational expansion). [FT]

Response: The Work Plan issued in February 1987 addresses two of these sites. Reardon Park and the North High School/Winch Park are included in the study. The Temple Street Playlot, the Juniper Hill Elementary School, and the majority of the Marist House property are all situated more than one mile from the proposed improvements and will not be evaluated.



I. Historic and Archaeological Resources

- (1) Will a broad inventory be conducted for sites of historic and archaeological significance? [MG]

Response: A review of the Massachusetts Historical Commission's inventories of historic and archaeological resources was conducted during preparation of the Environmental Notification Forms on the projects in July 1986.

- (2) The project's effect on the Cedar Swamp Archaeological District should be discussed. [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The potential impacts of the project on the District will be identified.

- (3) Requests for information should be directed to the Historical "Commissions" of Weston, Westborough and Southborough. These are town-appointed bodies which must be distinguished from the Historical "Societies" of these communities. [LLG]

Response: This is a clarification of the Work Plan issued in February 1987. Applicable local boards and individuals will be contacted.

- (4) A great deal of historical information on the Town of Westborough can be obtained from Curtis Hoffman. [LLG]

Response: Professor Hoffman will be contacted for information.

J. Other Issues

(1) The DEQE incident response files should be checked for the location of chemical spills. If any occurred within the construction area, consideration should be given to whether special treatment of the soils is necessary. [MG]

Response: The issue raised by this comment was considered by the MEPA Unit of EOEPA during the ENF review period and was not included in the EIR Scope. It will not be addressed in the EIR.

(2) All permits required for the project should be listed, in accordance with 301 CMR S11.07 (2) (c), (formerly S10.05(7) (d)). [MG]

Response: This is a clarification of the Work Plan issued in February 1987. All required permits will be listed in the EIR.

(3) Attention was directed to a comment letter from Mr. Gerrard to the MEPA Unit of EOEPA, dated September 12, 1986, for additional topics which should be included in the EIR. [MG]

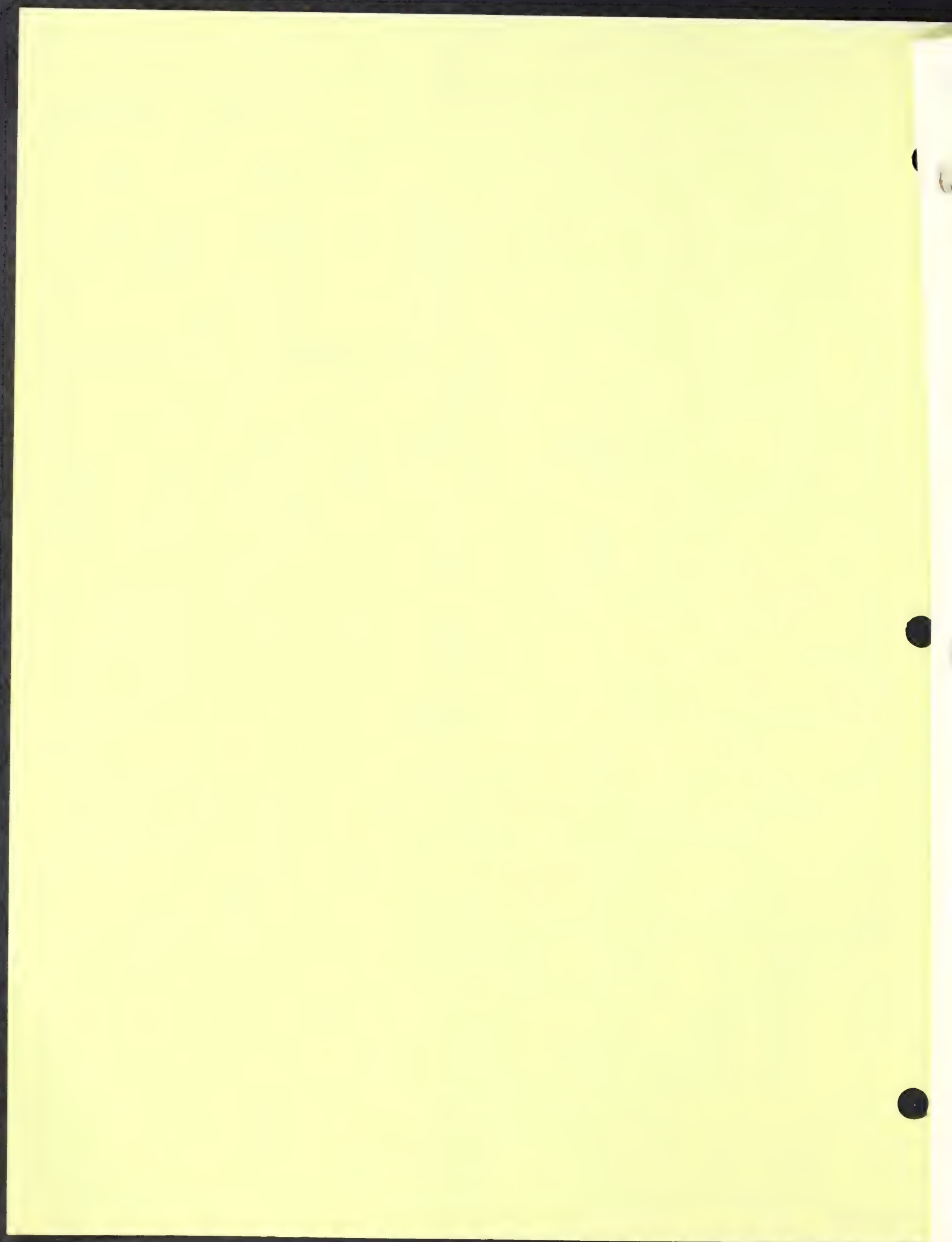
Response: This letter was written in response to the Environmental Notification Forms published on the projects. Many of the issues raised in the letter were addressed in the review of the Technical Work Plan and are included here. Those not included fall into one or both of the following categories:

- o Issues which are addressed in the Technical Work Plan and were not raised during the Work Plan review period.

- o Issues which were considered by the MEPA Unit and not included in the EIR Scope.

(4) A request was made that all assumptions and input data used in the various computer models be made available, together with all work sheets (e.g., volume/capacity worksheets for the traffic analysis). [MG]

Response: This is a clarification of the Work Plan issued in February 1987. The data used for the environmental studies will be made available to the public through the Repository located at the MTA Weston Engineering Headquarters. These data will be appended to the EIR.



HOWARD NEEDLES TAMMEN & BERGENDOFF

June 1, 1987

Professor John F. Kain, President
Urbridge Associates, Inc.
335 1/2 Harvard Street
Cambridge, MA 02139

RE: Massachusetts Turnpike Authority
1988 Improvement Program
Environmental Impact Report

Dear Professor Kain:

Enclosed for your information are several pieces of information you requested regarding the EIR transportation studies:

- o 1980 U.S. Census journey to work data on three (3) computer disks formatted for an IBM-PC under MS DOS.
- o A copy of the Route 9 highway network map as a replacement for the Route 9 model documentation. Formal documentation for the Route 9 model will be available in December, 1987.
- o A copy of the preliminary I-90 model map and zone structure as documentation for the I-90 model.
- o A copy of the Route 9 Corridor Planning Study work scope is provided as a source of MAPC land use projection techniques.

We are compiling data on I-90 bus use and parallel transit use and will forward to you when available.

Architects Engineers Planners

Suite 4200-Prudential Center • P.O. Box 9106, Boston, Massachusetts 02199, 617 267-6710

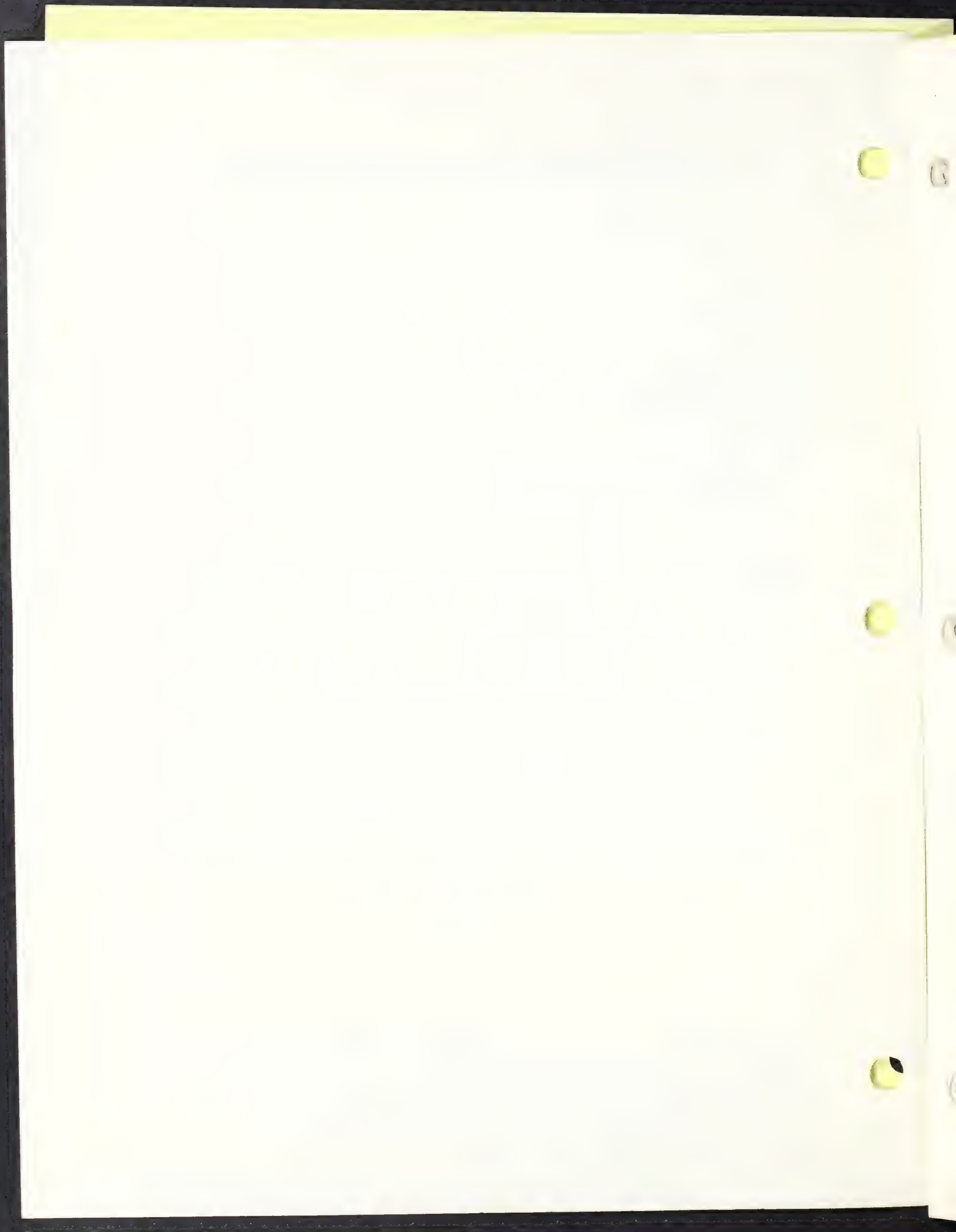
Partners James F. Finn PE, Gerard F. Fox PE, Browning Crow PE, Charles T. Hennigan PE, Daniel J. Watkins PE, Daniel J. Spigai PE, John L. Cotton PE, Francis X. Hall PE, Robert S. Coma PE, Donald A. Dupies PE, William Love AIA, Robert D. Miller PE, James L. Tuttle, Jr. PE, Hugh E. Schall PE, Cary C. Goodman AIA, Gordon H. Slaney, Jr. PE, Harvey K. Hammond Jr. PE, Stephen G. Goddard PE, John W. Wight PE

Associates Daniel J. Appel PE, Robert W. Richards PE, Don R. Ort PE, Frederick H. Sierbenz PE, Robert B. Kollmar PE, Kendall T. Lincoln CPA, Jack P. Shedd PE, Roberts W. Smith PE, Richard D. Beckman PE, Harry D. Bertossa PE, Ralph E. Robison PE, Cecil P. Counts PE, Stanley I. Mast PE, Robert W. Anzia PE, Walter Sharko PE, James O. Russell PE, Ross L. Jensen AIA, Frank T. Lamm PE, Alexander F. Silady PE, Ronald W. Aarons AIA, H. Jerome Butler PE, Blaise M. Carniere PE, Michael P. Ingardia PE, Bernard L. Prince PE, Stephen B. Quinn PE, Saul A. Jacobs PE, James A. Smith, Ronald F. Turner AIA, Ewing H. Miller FAIA, Douglas C. Myhre PE, Carl J. Mellea PE, Daniel F. Becker PE, Richard L. Farnan AIA, Paul L. Jorgensen AIA, Donald P. Keuth PE, Douglas E. Prescott PE

Offices Alexandria, VA, Atlanta, GA, Austin, TX, Baton Rouge, LA, Boston, MA, Casper, WY, Charleston, WV, Chicago, IL, Cleveland, OH, Dallas, TX, Denver, CO, Fairfield, NJ, Houston, TX, Indianapolis, IN, Kansas City, MO, Lexington, KY, Lexington, MA, Los Angeles, CA, Miami, FL, Milwaukee, WI, Minneapolis, MN, Nashua, NH, Newark, DE, New York, NY, Orlando, FL, Overland Park, KS, Philadelphia, PA, Phoenix, AZ, Raleigh, NC, Seattle, WA, Tampa, FL, Tulsa, OK

7. Public Mtgs
& Workshops

8. Public Hrg.



Professor John F. Kain, President
June 1, 1987
Page 2

Please contact me should you have any questions.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF



Joseph G. Grilli
EIR Project Manager

JGG:MGN

Enclosures

cc: M.B. Gerrard, BK&C, w/o encl.
M.C. Crain, MTA, w/o encl.
E. Bromage, CTPS, w/o encl.
B. Lawson, BLA, w/o encl.
Information Repositories, w/o encl.

HNTB File No. 11379.02

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7. Public Mtgs
& Workshops

8. Public Hrg.



1988 TURNPIKE IMPROVEMENT PROGRAM



Massachusetts Turnpike Authority

Environmental Impact Report for the 1988 Improvement Program

MASSACHUSETTS TURNPIKE AUTHORITY

TECHNICAL WORK PLAN

ENVIRONMENTAL IMPACT REPORT

ON 1988 TURNPIKE IMPROVEMENTS

EOEA NUMBER 6198

Technical Consultants
Howard Needles Tammen & Bergendoff
Central Transportation Planning Staff
Harris Miller Miller & Hanson, Inc.
Jason M. Cortell and Associates Inc.
Tech Environmental, Inc.
The Public Archaeology Laboratory, Inc.

June, 1987

Community Relations Manager — Ann Jacobson
Barry Lawson Associates, Inc.
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Concord, Massachusetts 01742
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7. Public Mtgs
& Workshops

8. Public Hrg.

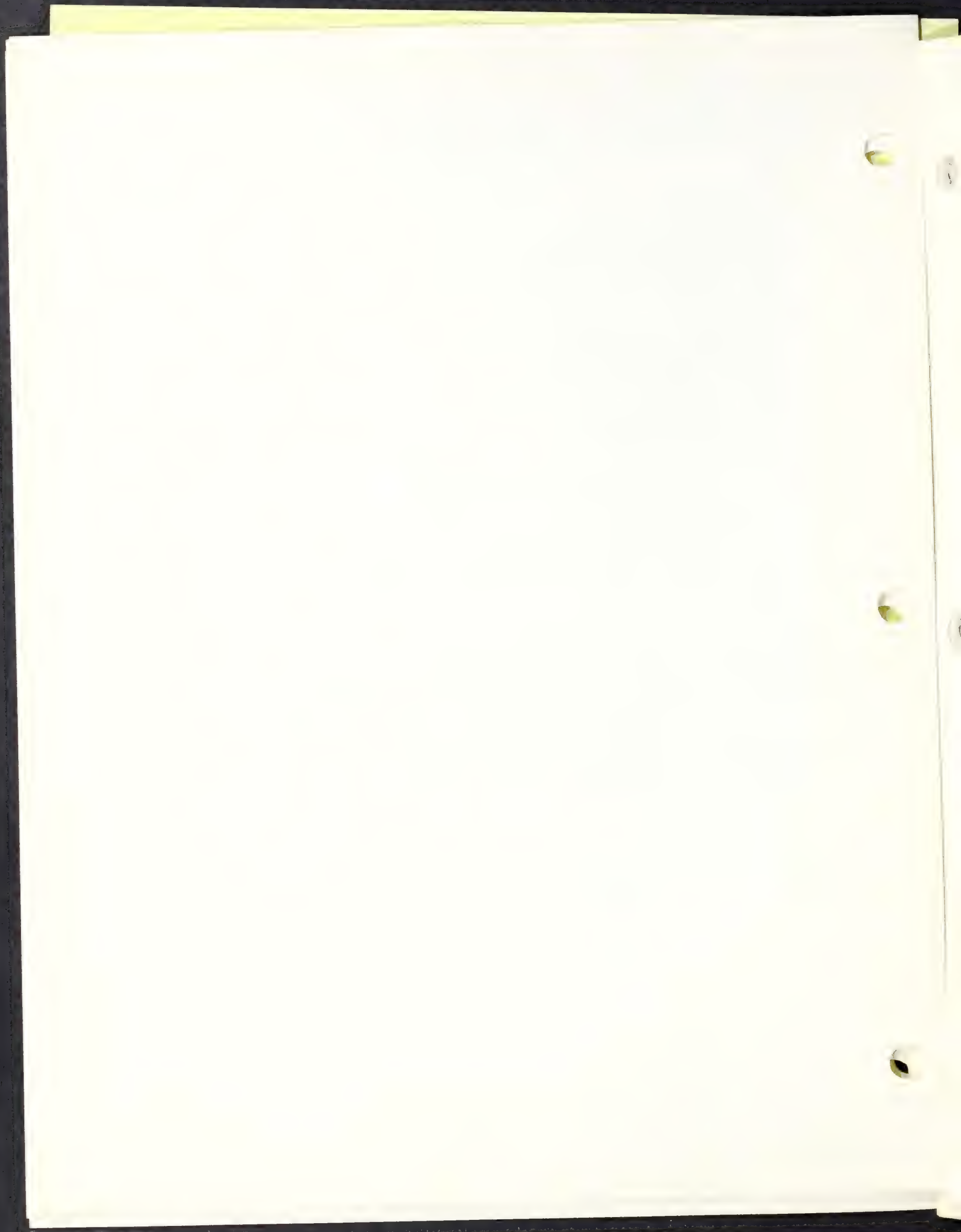


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1. INTRODUCTION

This document contains the technical work plan for the Environmental Impact Report (EIR) on the 1988 improvements to the Massachusetts Turnpike. The work plan has been prepared in response to the October 1, 1986 Certificate of the Secretary of Environmental Affairs (EOEA Number 6198) as well as subsequent letters from the Massachusetts Historical Commission and EOEA (see Attachment 1). Conduct of the environmental studies and preparation of the EIR will comply with the requirements of the Massachusetts Environmental Policy Act (MEPA) regulations [301 CMR 11]. The Draft and Final EIR documents will be the major products of this work effort. In addition, technical reports will be published as they become available.

A version of this work plan was issued for public comment on February 19, 1987. Meetings were held with interested parties and public officials, and comments were received until March 13. Subsequently, all comments have been considered by the technical staff, and modifications to the work plan have been made as appropriate. This document reflects the additional technical studies to be incorporated into the EIR. These modifications are indicated by use of *italic type*.

1.1 Project Description

The Massachusetts Turnpike Authority (MTA) proposes a series of improvements to reduce traffic congestion and increase safety along the Turnpike between I-495 and Route 128/I-95. The following five elements of the program have been identified by the Secretary of the Executive Office of Environmental Affairs (EOEA) as requiring detailed environmental analysis and preparation of an EIR:

- . Construction of a new barrier toll plaza on the Westborough/Southborough town line, and associated toll modifications at Interchanges 12, 13, 14 and 15
- . Ramp widening at Interchange 13 in Natick/Framingham
- . Ramp widening at Interchange 14 in Weston
- . Adding one travel lane in each direction between Interchanges 13 and 14 - Weston, Wayland, Natick and Framingham
- . Expansion of the truck parking area at Service Area 8E in Natick

1.2 Environmental Categories for Evaluation

The technical areas for environmental evaluation have been identified by the Secretary of Environmental Affairs through the initial phases of the MEPA process which have been conducted to date. Specifically, the October 1986 Certificate lists the following areas to be addressed in the EIR:

- . Traffic
- . Air Quality
- . Noise
- . Ground and Surface Water Supplies
- . Surface Water
- . Wetlands
- . Light impact
- . Recreation



In addition, the Massachusetts Historical Commission has requested the following studies:

- . Historic resources (Thomas Pierce House and Barn)
- . Archaeological resources (Westborough/Southborough town line)

1.3 Project Team

The technical studies and report preparation will be performed by a project team comprised of the following firms:

HOWARD NEEDLES TAMMEN & BERGENDOFF	Prime Consultants, and Traffic, Recreation, Light and Historic Analyses
THE CENTRAL TRANSPORTATION PLANNING STAFF	Traffic Modeling
JASON M. CORTELL & ASSOCIATES, INC.	Water Quality, Surface Water and Wetlands Analysis
HARRIS, MILLER, MILLER AND HANSON, INC.	Noise Analysis
TECH ENVIRONMENTAL, INC.	Air Quality Analysis
THE PUBLIC ARCHAEOLOGY LABORATORY, INC.	Archaeology

1.4 Community Participation Program

A community participation program will be conducted by Barry Lawson Associates throughout the EIR process. The program will include regular meetings with a Local Liaison Group, a periodic newsletter, conveniently located information repositories, and a public information meeting and public hearing on the Draft EIR. Additional community information meetings or workshops will be held as appropriate. This community participation program has been designed to:

- . Provide the concerned communities with current information on the EIR process and the technical investigations taking place,
- . Enable the public to provide input to the project team.

Attachment 2 lists the members of the Local Liaison Group who have been designated to represent their communities by their Boards of Selectmen. Among the functions of the LLG are the following:

- . To inform the public of the elements of the projects
- . To serve as liaisons between the project team and the officials and citizens in their communities
- . To follow the progress of the EIR
- . To offer suggestions and perspectives on the technical studies and methodologies
- . To advise the project team on the community outreach program

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2. ENVIRONMENTAL IMPACT EVALUATION

The environmental impact evaluation process will include collection of data on existing conditions, evaluation of impacts, and identification of measures to mitigate adverse impacts. The need for the project will also be documented. Each of these subjects is addressed in this section.

2.1 Purpose and Need for the Project

The goal of the improvement program is to satisfy existing and projected traffic demands and to enhance safety. The need for the Turnpike improvements will be documented on the basis of the traffic data generated for the EIR between I-95/Route 128 and I-495. This will include discussions of roadway capacity, projected travel demand, transportation service and safety.

2.2 Existing Conditions

Data on existing conditions will be compiled to characterize the natural and built environment that could be affected by the projects and to form a baseline from which to measure impacts. Previous local, state and regional reports will be collected and reviewed. These will be supplemented as necessary by collection of additional pertinent reports and by conducting field inspection programs in all environmental categories to be evaluated. The following types of information on existing and future conditions will be gathered:

2.2.1 Traffic (see Attachment 3 for list of study area roadways)

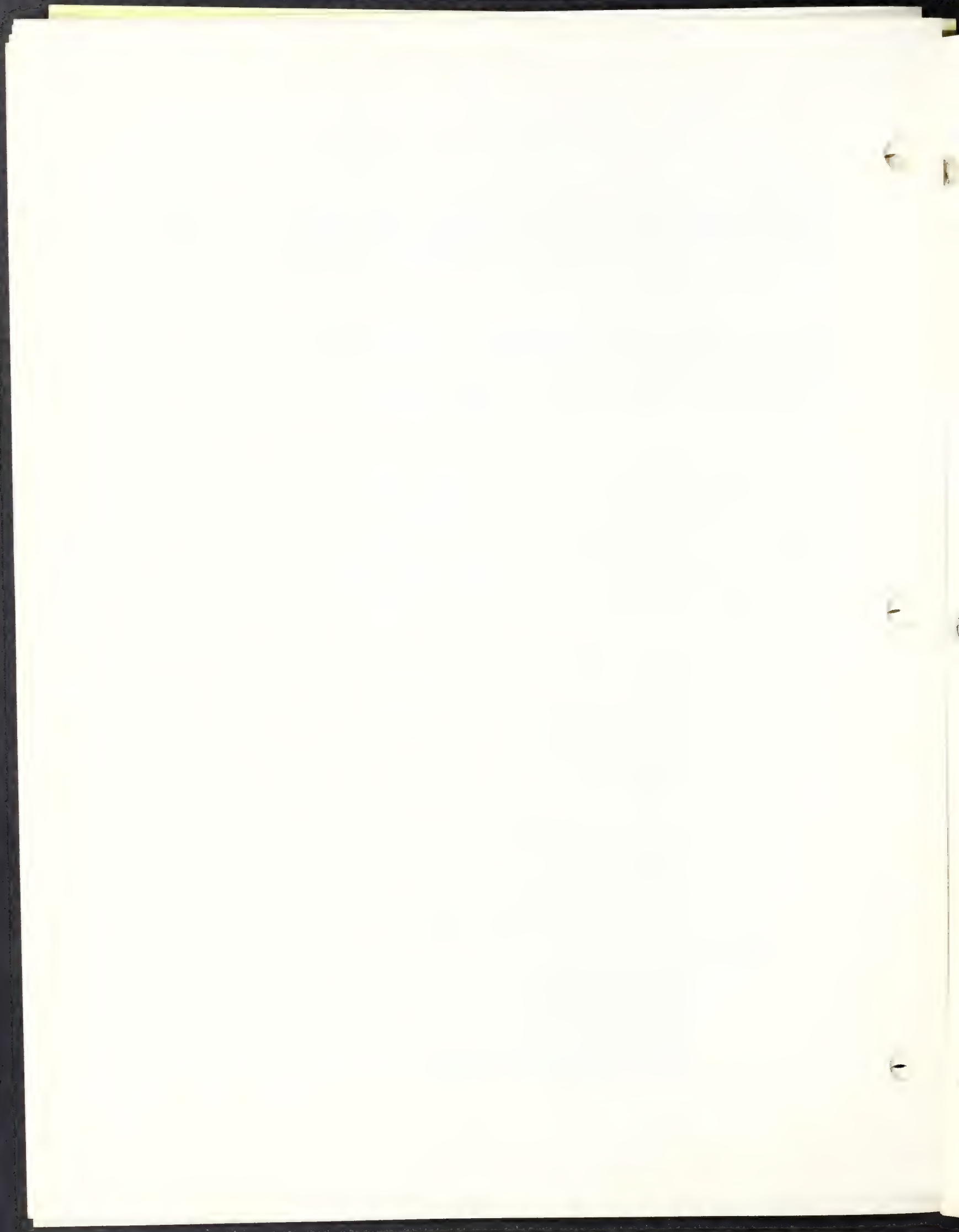
- Traffic counts on the Turnpike, feeder routes and parallel routes
- Truck data (volumes, type)
- Origin-destination data for the Turnpike
- Major traffic generators
- Speed and delay data
- Roadway capacity
- Accident data

2.2.2 Air Quality (See Attachment 4)

- Sensitive receptors inventory (residences, schools, churches, parks)
- Existing (ambient) air quality data
- Operation of the intersections (geometry, signal timing, traffic flow, lengths of queues)

2.2.3 Noise (See Attachment 5)

- Existing (ambient) 24-hour noise levels *at various distances from the Turnpike*
- Sensitive receptors inventory
- Noise sources
- Terrain characteristics
- Noise characteristics of existing toll plazas



2.2.4 Ground and Surface Water Supplies

- Characteristics of existing Turnpike runoff and runoff from other sources (see Attachment 6)
- Natural and manmade drainage systems
- Water quality data on existing and potential municipal supply sources in all of the project communities
- Municipal water supply operating data (supply sources, treatment and distribution systems)
- *Sodium and chloride data on representative private wells.*
- Data on Turnpike and municipal snow and ice control programs

2.2.5 Surface Water

- Characteristics of existing Turnpike runoff
- Natural and manmade drainage systems
- Water quality of study area streams and ponds (see Attachment 6)

2.2.6 Wetlands

- Wetlands locations and characteristics (functions, values)
- Flood-prone areas
- Fisheries data of Massachusetts Division of Fisheries and Wildlife
- Wildlife records of the Massachusetts Natural Heritage Program
- Wildlife habitat inventory

2.2.7 Light Impact

- Lighting conditions inventory
- Sensitive receptors (pedestrians, residents, parks, motorists)

2.2.8 Recreation

- Recreational facilities inventory (use, ownership, future plans) (see Attachment 7)

2.2.9 Historic and Archeological Resources

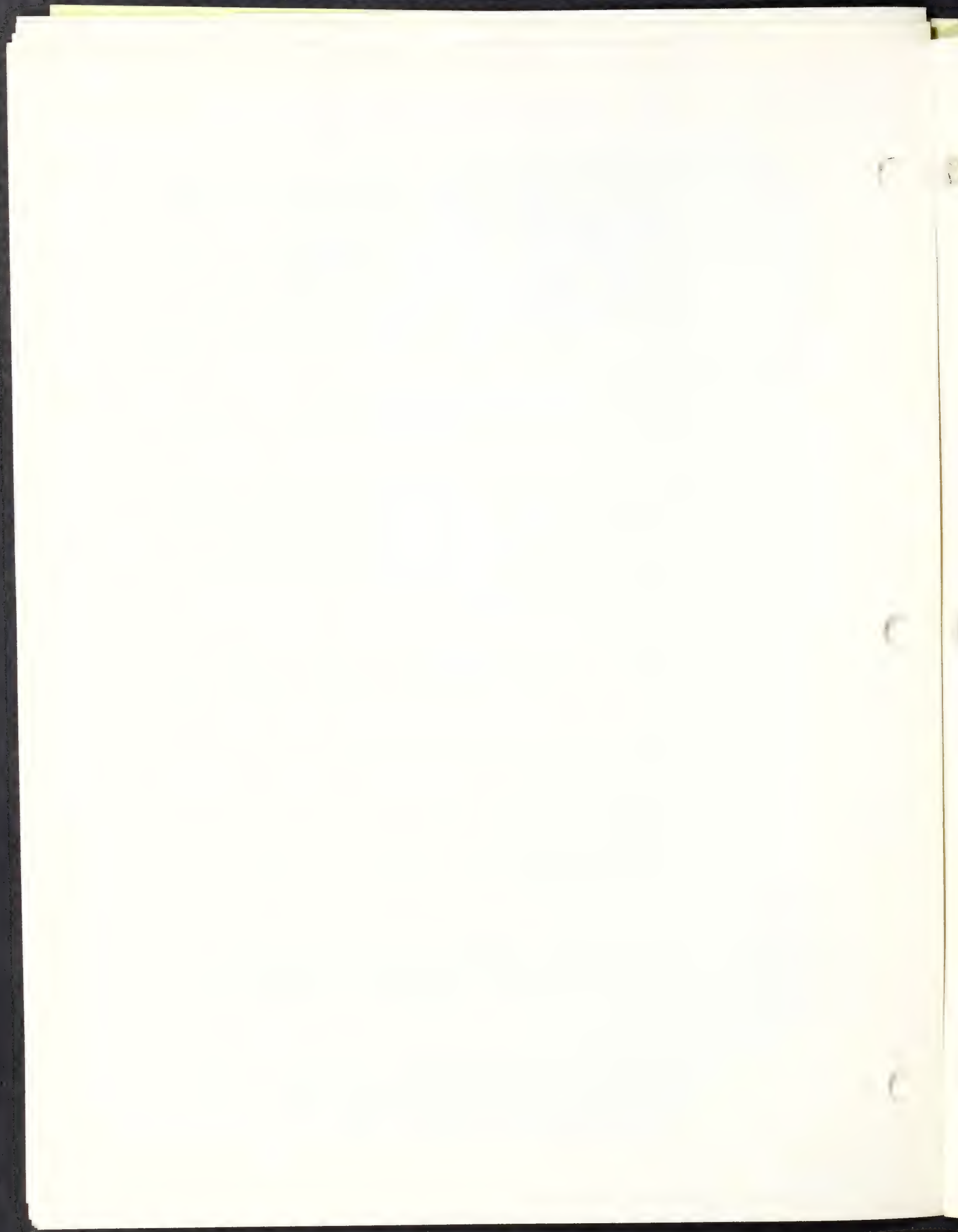
- Background data and use characteristics of Thomas Pierce House and Barn
- Archeological sensitivity of barrier toll alternative at Westborough/Southborough town line

2.3 Development of Alternatives

The No Build alternative will be developed and evaluated to provide a basis for comparison of impacts associated with the Build alternative(s). This comparison will be carried out for all environmental categories. Alternatives to other specific elements of the projects will be addressed as described below:

2.3.1 Barrier Toll Plaza

- Alternative Toll Plaza Locations - Six locations besides the proposed that meet minimum engineering standards will undergo a preliminary screening on the basis of cost, environmental and neighborhood impacts. Unless the impacts of all



alternative sites are demonstrated to be so extreme in the preliminary screening as to make them all infeasible, the most feasible of these locations will be developed to the extent necessary to perform detailed impact analyses in all of the environmental categories. These impacts will be compared to those of the Westborough/Southborough town line alternative.

- Alternative Toll Collection Scenarios - Descriptions of the alternative scenarios other than the preferred which were evaluated in 1986 will be provided. These will be discussed in terms of travel demand, engineering feasibility, cost, and required changes to the toll schedule.

2.3.2 Interchange 14 Ramp Widening

- Alternative Off-Ramp Alignment - Qualitative evaluations of potential reductions in noise, air quality, wetlands, and light impacts associated with alternatives to the proposed alignment will be documented.

2.4 Impact Evaluation

Evaluation of impacts will include a comparison between the Build and the No Build alternatives for all of the projects in all of the environmental categories. Impacts of the alternatives as described in Section 2.2 will also be evaluated. In situations where more than one of the project elements has the potential to affect the same resource, cumulative impacts will be assessed and reported. Both construction (short-term) and long-term impacts will be identified. Detailed technical methodologies and numerical and technical data will be provided as appendices to the EIR. Graphic materials and tables will be used in the EIR to clearly demonstrate the improvement projects and areas of impact.

2.4.1 Transportation Service

Computer modelling will be used to develop future year traffic forecasts for 1987 (existing), 1988 (opening year) and 1995 (design year). The traffic modelling will consider changes in travel patterns within the study area using CTPS' expanded Route 9 model. *Impacts on the regional highway system will be addressed using CTPS' Eastern Massachusetts Model.* Analysis will be conducted of beneficial and adverse consequences of changes in traffic volumes on the Turnpike and parallel/feeder routes (see Attachment 3 for study area roads). These traffic effects will be measured in terms of level-of-service, volume-to-capacity ratios, roadway and toll plaza queuing, and accidents.

The availability and use of various regional commuting options will be explored in relation to Turnpike improvements. *This will include a discussion of the current and potential transit and HOV usage of the Turnpike and parallel services.*

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2.4.2 Air Quality

Both mesoscale (overall project area) and microscale (site-specific) computer analyses will be performed using traffic forecasts. The mesoscale analysis will use an EPA emissions model to estimate daily carbon monoxide, nitrous oxide, and non-methane hydrocarbon emission totals. The misoscale study area is bordered by I-495, Route 20, I-95 and Route 135. *In addition, the Massachusetts Turnpike Extension will be included from I-95 to I-93 (Central Artery).* Total emissions will be compared to demonstrate consistency with the State Implementation Plan for compliance with Federal air quality standards.

The microscale analysis will determine maximum 1-hour and 8-hour concentrations of carbon monoxide (CO) at roadway locations in the study area using the EPA and state-approved model CALQ3, which considers acceleration and deceleration. A set of sensitive receptors for each emissions source location will be identified for approval by Massachusetts Department of Environmental Quality Engineering, Division of Air Quality Control (DAQC) (See Attachment 4). CO concentrations will be compared to State and National Ambient Air Quality Standards. If any violations are predicted, mitigation measures will be developed and tested. This air quality study has been approved by the DAQC (see Attachment 1).

2.4.3 Noise

FHWA-authorized noise prediction methods will be used to establish existing and design year noise levels. Model assumptions will include traffic volume and speed, percentage of trucks, and the terrain. The model will incorporate the effects of proposed toll plazas and truck lanes. The model will produce "worst-hour" noise levels at noise-sensitive sites (see Attachment 5).

FHWA noise criteria, both absolute and relative, will be applied to determine the degree or severity of the noise impact. Noise contour maps will be developed to display the noise levels and areas of noise impact. *Information from the literature will be provided about noise levels in typical residential areas away from noise sources.*

An assessment of nighttime noise impact will be conducted. Based on the noise measurements and traffic, the 24-hour noise metric L_{dn} will be computed. This metric is used by HUD and EPA to evaluate community noise impact. It is a 24-hour average sound level with a 10-decibel penalty for nighttime noise. An assessment of nighttime sleep interference due to truck pass-bys will also be conducted. *In addition, a literature review to identify noise emission levels from snow plowing will be conducted to predict maximum nighttime pass-by noise levels.*

A noise abatement feasibility evaluation will be performed as required in each affected area to determine the effectiveness and cost of noise barriers. *This will include an assessment of the effects of wind on barrier effectiveness.* For areas where noise barriers appear necessary, barrier height, length, location and approximate cost will be estimated. Alternative mitigating measures such as traffic management and alignment adjustments will also be explored.

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2.4.4 Ground and Surface Water Supplies

A sodium model will be used to determine the magnitude of potential groundwater impacts due to sodium and chloride concentrations in Turnpike runoff associated with the snow and ice control program. Impacts on surface water supplies will also include data from two water quality models designed for use on high-volume roadways and will address the parameters identified in Attachment 6. The potential for and effects of accidental material spills on road surfaces will also be evaluated.

A mitigation assessment will be prepared for such alternatives as drainage diversions and a low-flow drainage system in areas of demonstrated impact. In addition, the feasibility of reducing salt application rates will be explored after consultation with the Massachusetts Department of Public Works on their recently-enacted salt reduction program for sensitive areas. This task will draw on the latest information available for preparation of the Generic EIR on Snow and Ice Control, available to the Turnpike Authority as a participating member of the group.

2.4.5 Surface Water Quality

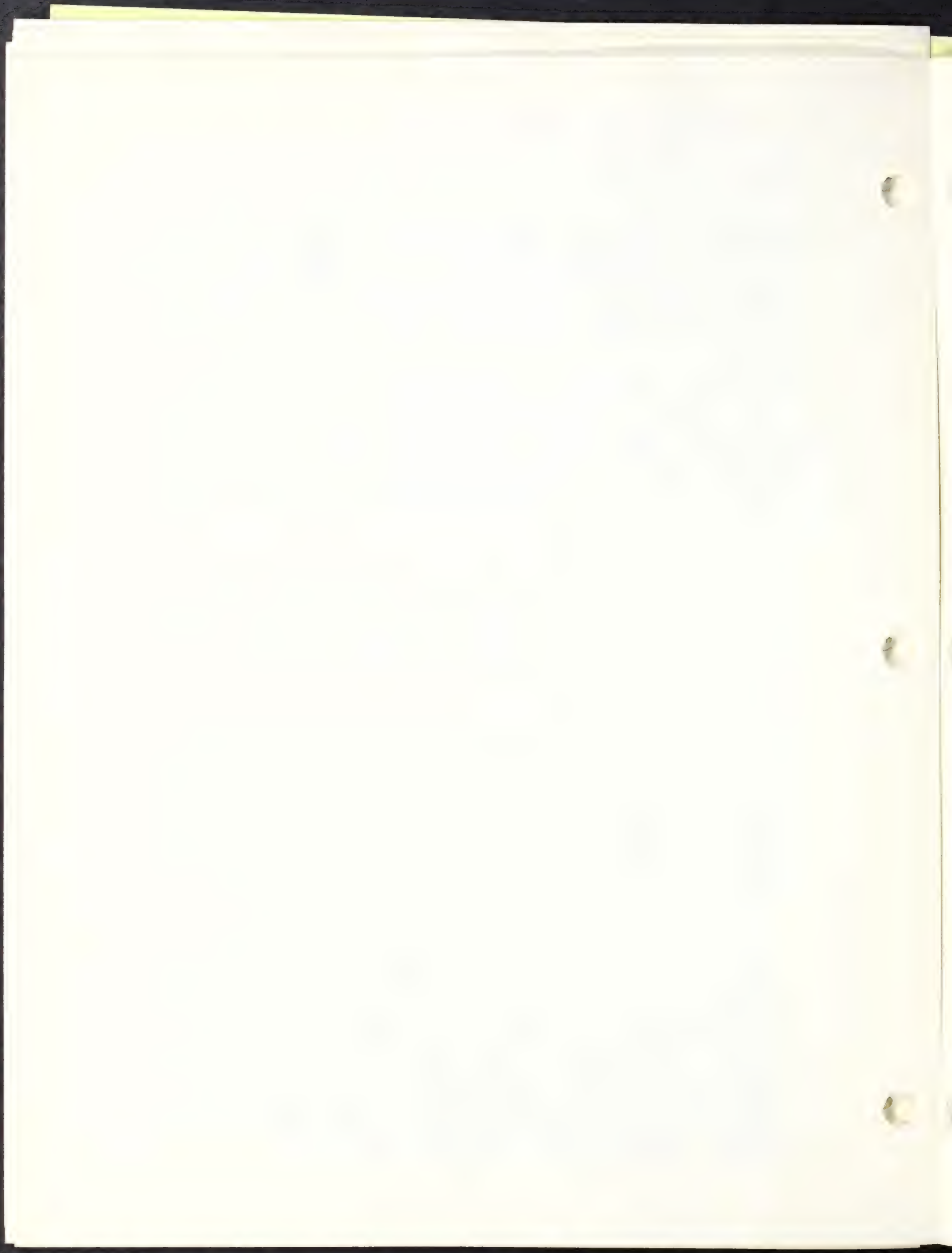
Analysis of the stormwater runoff impacts on study area streams and ponds from proposed drainage systems will be performed using two water quality models under annual average streamflow conditions. Seasonal pollutant loads and concentrations will be evaluated for all of the identified receiving water bodies (see Attachment 6).

2.4.6 Wetlands

The significance of the study area wetlands will be assessed in terms of their significance to the Massachusetts Wetlands Protection Act and implementing regulations including water supply, flood control, pollution prevention, fisheries protection and wildlife habitat. Impacts will be evaluated using both state and U.S. Army Corps of Engineers criteria. Areas of wetland takings will be minimized through design, and wetland mitigation plans will be developed to replace lost acreages of vegetated wetland and 100-year floodplain as necessary. This will include consideration of wetland values, identification of replication areas and preparation of guidelines for their construction.

2.4.7 Light Impact

Light impacts will be evaluated for: the barrier toll facility, the relocated off-ramp at Interchange 14, and the expanded truck parking area at Service Area 8E. Field surveys will be conducted in non-daylight hours and with minimum foliage on trees to estimate "worst-case" conditions. Using measurements of illumination from existing similar Turnpike facilities, light impacts will be quantified at sensitive receptors to the above project areas. Consideration will be given to current lighting conditions and any obstructions between a proposed light source and a receptor. Mitigation to reduce stray light or glare will be recommended as appropriate, and *alternative types of lighting will be evaluated for the barrier toll plaza.*



2.4.8 Recreation

Existing and planned recreational facilities in the study area will be visited to determine which may be affected by noise or other impacts associated with existing Turnpike activities. Using the results of the EIR noise, traffic, air quality, water quality and light impact analyses, changes in recreational opportunities due to the proposed project will be identified. Mitigating measures will be proposed as appropriate.

2.4.9 Historic and Archaeological Resources

Anticipated changes in the visual characteristics of the Turnpike and noise increases due to the proposed mainline widening will be used to identify any change in the character, use or preservation of the historic Thomas Pierce House and Barn in Weston.

Field investigations to identify the presence of any archaeological resources in the vicinity of the Westborough/Southborough town line barrier toll plaza site will include a walkover survey and excavation of test pits. Any cultural materials found will be cleaned, identified and categorized.

For the analysis of both the historic and archeological resources, coordination with the Massachusetts Historical Commission (MHC) will be maintained to ensure compliance of the project with state and federal requirements. As necessary, planning to minimize harm to historic and archaeological resources will include agreements or provisions for development of design features to assure compatibility between the proposed facilities and the historic property, and/or special measures to recover and preserve significant artifacts.

2.5 Mitigating Measures

The physical measures and management techniques proposed to limit adverse impacts will be summarized in the EIR. The relative merits and costs of alternatives to the proposed mitigation plan which were considered will also be discussed. As necessary, the environmental impacts of the mitigation plan will be evaluated. Mitigation expected to be considered will include, as indicated, noise barriers, lane widening towards the median and steepening side slopes to avoid wetlands, rerouting highway drainage to reduce water quality impacts, and use of shielding or glare control features on light installations.

3. Project Schedule

January to mid-August 1987	Preparation of Draft EIR (also see attached schedule)
Middle to end of August 1987	Review of DEIR by Executive Office of Transportation and Construction
September 1987	Submittal of DEIR to MEPA; one-month public comment and review period; public hearing.
October to Mid-November 1987	Preparation of Final EIR
Middle to end of November 1987	Review of FEIR by Executive Office of Transportation and Construction
December 1987	Submittal of FEIR to MEPA and public comment and review period

7. Public Mtgs
& Workshops

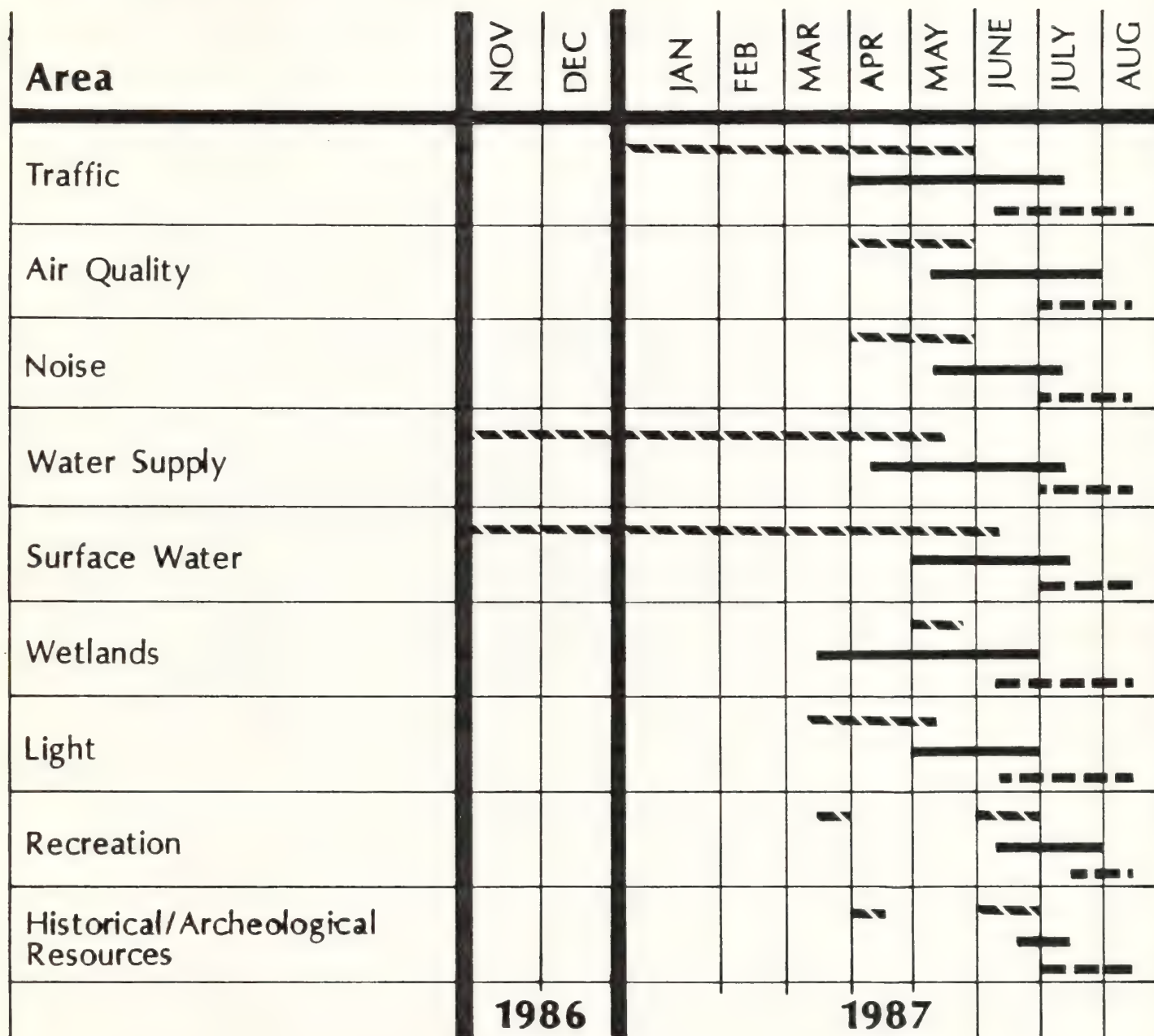
8. Public Hrg.



Figure 1

Massachusetts Turnpike Authority

Project Schedule for Preparation of Draft EIR

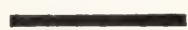


LEGEND

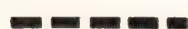
Data Collection



Impact Evaluation



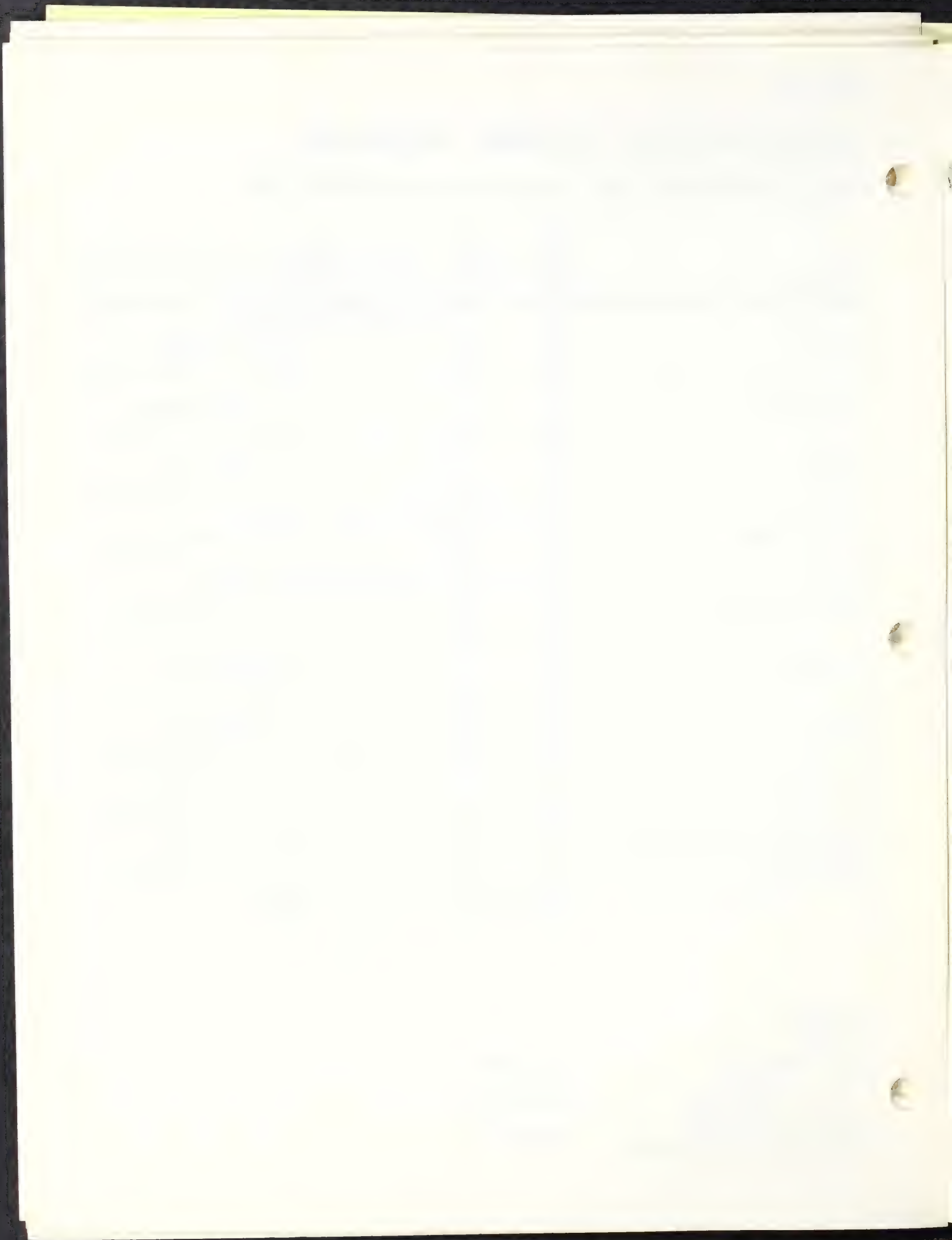
Report Production



(HNTB & Subconsultant)

7. Public Mtgs
& Workshops

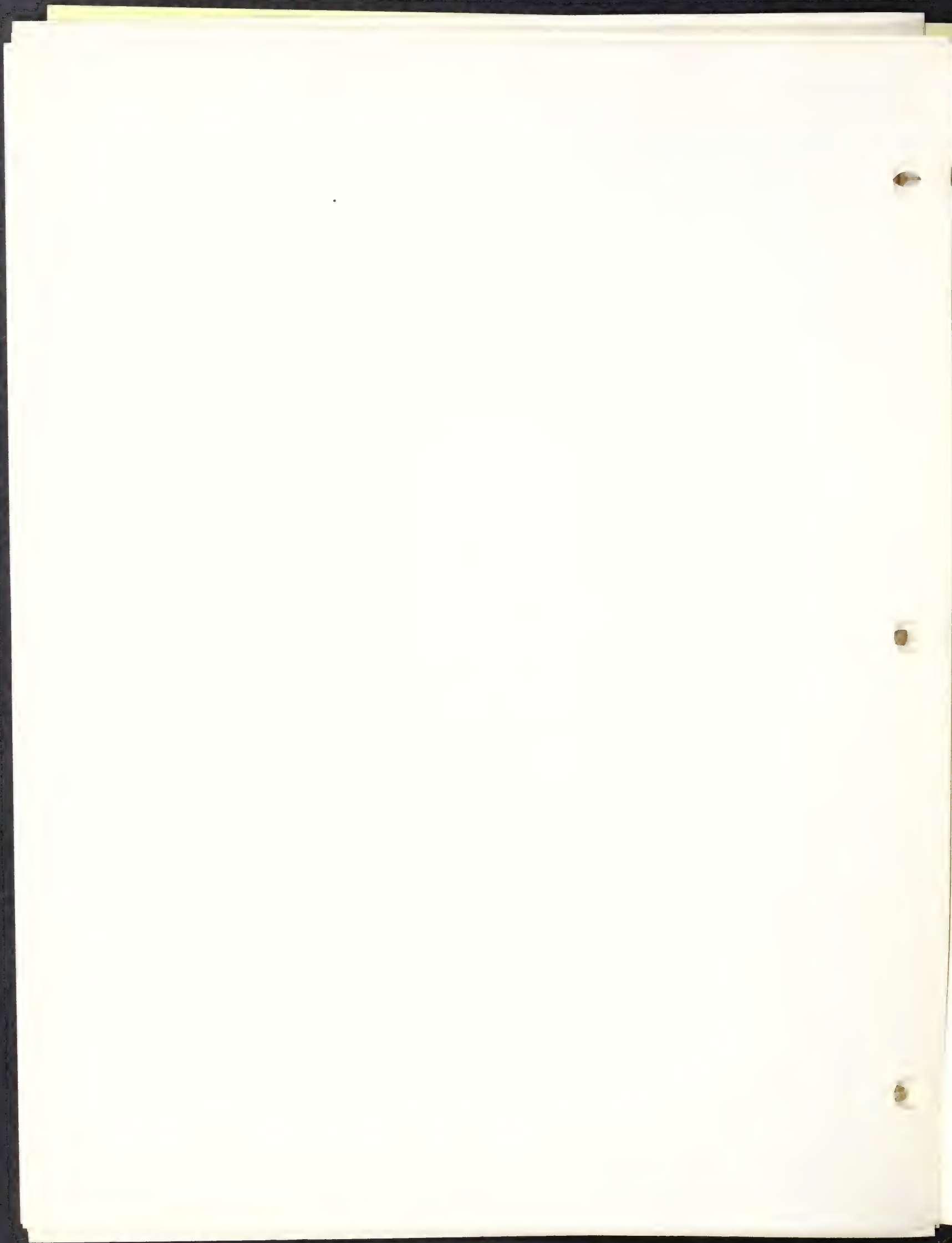
8. Public Hrg.



ATTACHMENT 1
AGENCY REQUIREMENTS

7. Public Mtgs
& Workshops

8. Public Hrg.





The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

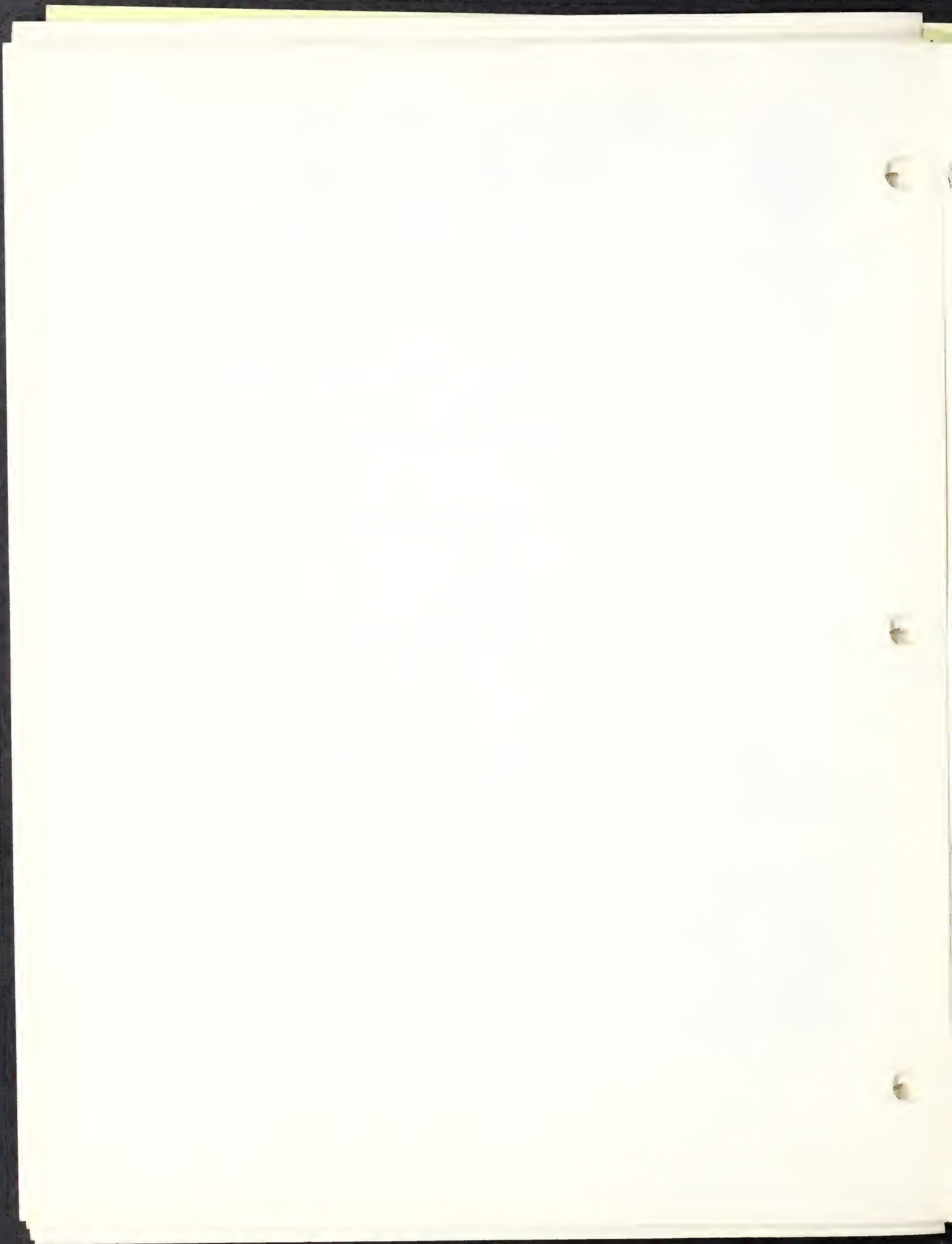
JAMES S. HOYTE
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Massachusetts Turnpike Authority
Projects
PROJECT LOCATION : Statewide
EOEA NUMBER : 6198A,B,C and D
PROJECT PROPONENT : Massachusetts Turnpike Authority
DATE NOTICED IN MONITOR : August 8, 1986

Pursuant to the Massachusetts Environmental Policy Act (G.L., c.30, s.62-62H) and Sections 10.04(1) and 10.04(9) of the regulations implementing MEPA (301 CMR 10.00), I hereby determine that the above project requires the preparation of an Environmental Impact Report.

The four ENFs presented under EOEA #6198 present four projects of the MTA which together raise significant questions on traffic, air quality, noise, groundwater, surface water and recreational impact. In addition, the Authority has informed me of a project change to provide additional truck parking at service area 8E in Natick. Because the impacts of all five actions are interrelated and in some cases cumulative they must be evaluated under MEPA as a single project. The goal of the document is to review the environmental effects of all alternatives and identify all feasible mitigation necessary under G.L., c.30, s.61.



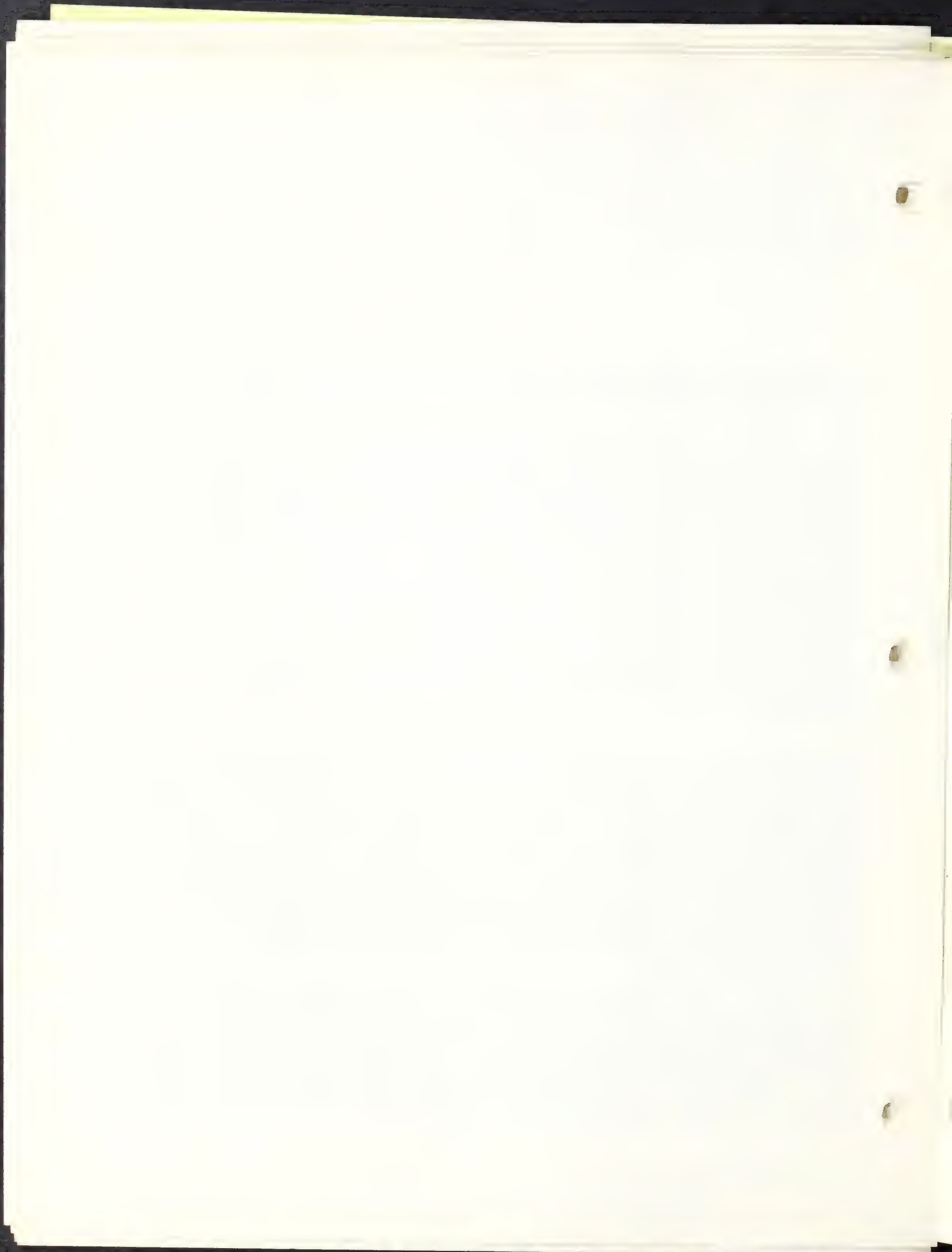
S C O P E

I. Purpose of and Need for Project - Based on a review of traffic and accident data for the Turnpike from Route 128 to I-495, describe the need for and goals of the proposed changes.

II. Traffic - An analysis of potential changes in traffic volume between I-495 and the Central Artery is needed. Due to the delicate balance of traffic between road options, the report must consider whether an improvement in flow on the Turnpike may divert some traffic from Routes 30, 9 and 135. Changes in traffic flow on the Turnpike Extension, Central Artery, and Route 128 due to the projects must be evaluated. In addition, some exit ramps and receiving streets or roads may be affected significantly. These should be identified and impacts on them evaluated. This analysis must include Speen Street and the ramp access changes proposed at Shoppers World. A thorough evaluation of potential traffic changes is needed to evaluate properly impacts in most other areas. Safety impacts to sensitive areas such as school walking areas must be evaluated. Finally, employee access, especially at the new toll plaza, must be considered.

III. Air Quality - The Commonwealth is not in compliance with the National Ambient Air Quality Standards for some contaminants and towns are not in compliance for others. Since compliance with the NAAQS is due soon, the status of this project under the State Implementation Plan needs careful analysis. Mesoscale analysis of hydrocarbons, ozone and oxides of nitrogen is needed. Some elements of this program may lead to benefits, while some cause extra burdens. The net effect of the project must be clearly presented. Microscale analysis of carbon monoxide impact will also be needed for sensitive receptors and where "hot spots" exist. DEQE/Air Quality Control must be consulted as to model use, input parameters, selection of sensitive receptors, and the need for monitoring.

IV. Noise - The current operations of the Turnpike are reported to create significant noise impacts on the residents of the surrounding communities. This noise level must be quantified for sensitive receptors along the main line, ramps and service area in all work areas. The analysis should identify average and peak noise levels for day, evening, and night conditions. Using these data as the base, noise modeling must be used to evaluate changes



expected at the sensitive receptors due to the project elements. Noise due to pavement types, bridge expansion joints, and truck lanes should also receive analysis. Noise impacts should be compared to relevant noise level guidelines and standards, including the Federal Highway Administration Design Noise Levels.

V. Ground and Surface Water Supplies - Data should be presented on the current sodium levels in private and public water supplies impacted by the Turnpike snow and ice control program in the work areas. Increases due to increased pavement width and lane miles must be evaluated. Potential water supply sites identified by the Towns must be identified in the report and potential impacts to these evaluated.

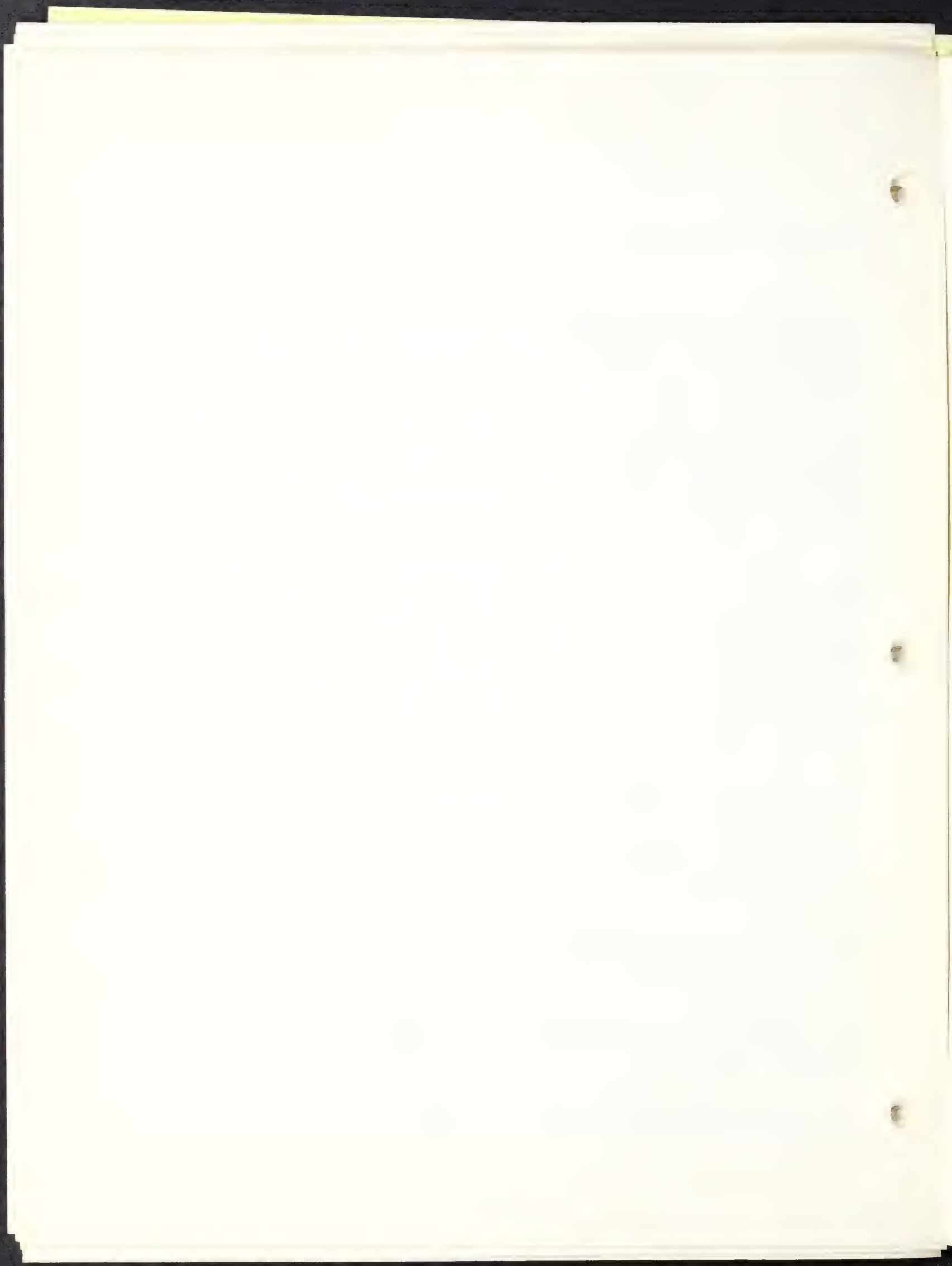
VI. Surface Water - The Turnpike discharges runoff to numerous water bodies in the work areas. These should be identified and the existing use of each should be discussed. The current Turnpike runoff to each should then be characterized in terms of quantity and quality. Based on volume and dilution factors, the existing impact should be compared with any available data on the water bodies for indicator and roadway runoff parameters. Changes in runoff quantity and quality and in impacts to receiving waters from these projects should then be evaluated. The potential for and effects of accidental spill of materials on the road surfaces also should be evaluated.

VII. Wetlands - The proposed projects would eliminate or modify several wetlands. The changes should be quantified by wetland and the significance of each wetland area should be evaluated under the existing seven interests of the Wetlands Protection Act and under the recently added wildlife interest. Impacts to each interest must be evaluated and the status of each proposed modification under the wetland regulations must be identified.

VIII. Light Impact - Proposals to add lighting to various segments of the Turnpike main line, toll plaza, and ramps should be illustrated clearly and their impact on adjacent residential communities evaluated.

IX. Recreation - A number of recreational facilities exist along the Turnpike in the work areas. The impact of the existing Turnpike should be documented and then any changes due to the proposals evaluated.

X. Mitigation - All feasible measures to mitigate impacts identified in each of the above sections should be identified and



October 1, 1986

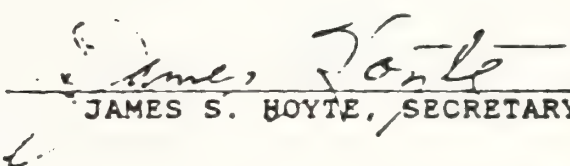
evaluated for effectiveness. This discussion may take place under the individual topics above, but the proposed mitigation measures must be summarized here. The goal is to meet the intent and requirements of G.L., c.30, s.61.

XI. Alternatives - Alternative locations of the toll plaza and alternative fare collecting schemes should be presented and evaluated. Evaluation should be carried to the degree needed to determine feasibility. The Turnpike Authority should evaluate alternative alignments, designs, and details to limit adverse effects for other segments of the projects, as well.

The EIR should follow the general format provided in the MEPA Regulations at 301 CMR 10.05(7) and must contain a copy of this Scope. The distribution list for the Draft EIR is included under separate cover. I also encourage the Authority to hold a public hearing at about the 20th day of the 30 day public and agency comment period for the Draft EIR.

October 1, 1986

DATE


JAMES S. BOYTE, SECRETARY

JSH/DES/bk

7. Public Mtgs
& Workshops

8. Public Hrg.



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

March 12, 1987

Mr. Mel Crain
Massachusetts Turnpike Authority
Engineering and Maintenance
668 South Avenue
Weston, MA 02193

RE: EOE #6198 project change to include truck parking
expansion at service area eight eastern Natick.

Dear Mr. Crain:

This letter confirms that the scope issued on October 1, 1986 adequately covers the project change as identified in your letter of October 15, 1986. The MEPA office had been verbally informed of the changes prior to the Secretary's action of October 1, 1986. The project need should be addressed in the Scope Item I, and the remaining scope items addressed as appropriate to the site.

The notice of project change was included in the Environmental Monitor of November 11, 1986 and received few comments. The comments, which are attached, and our review did not identify issues beyond those in the Scope of October 1, 1986.

Thank you for the formal notice of project change. Small changes to reflect changes due to the environmental process should be well described in the review documents. Any large changes anticipated should be described to MEPA so that any needed Scope changes can be identified.

Sincerely,

Steven C. Davis

Steven C. Davis
Assistant Secretary
Environmental Impact Review

SCD/DES/bk

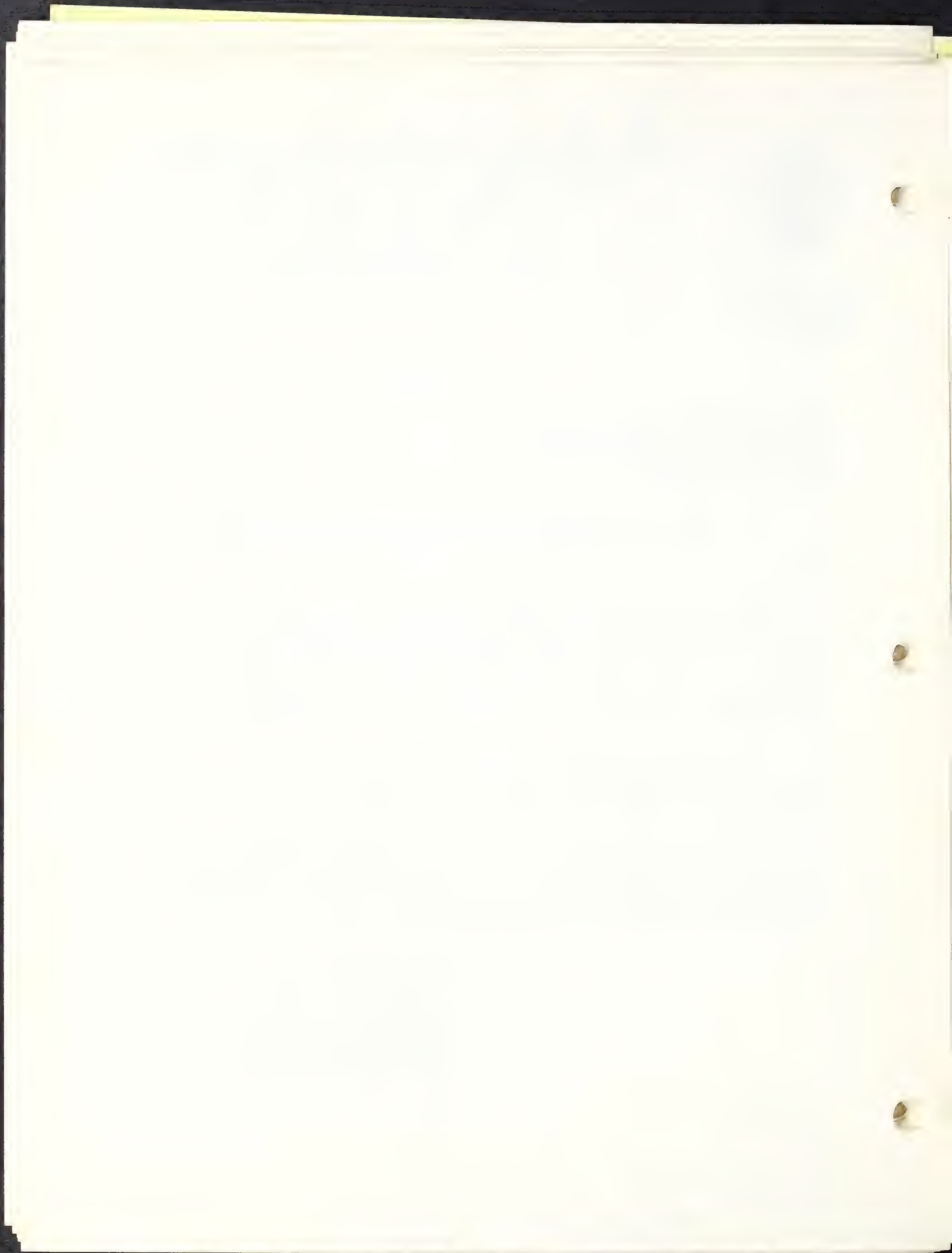
Enc.

cc: Distribution

1 - 6

7. Public Mtgs
& Workshops

8. Public Hrg.





The Commonwealth of Massachusetts

Office of the Secretary of State
Michael Joseph Connolly, Secretary

Massachusetts Historical Commission
Valerie A. Talmage
Executive Director
State Historic Preservation Officer

October 3, 1986

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Mass 02202

Att: NEPA Unit

RE: MTA Barrier Toll Plaza 11A/12, Westborough and Southborough EOE No. 6198B

Dear Secretary Hoyte:

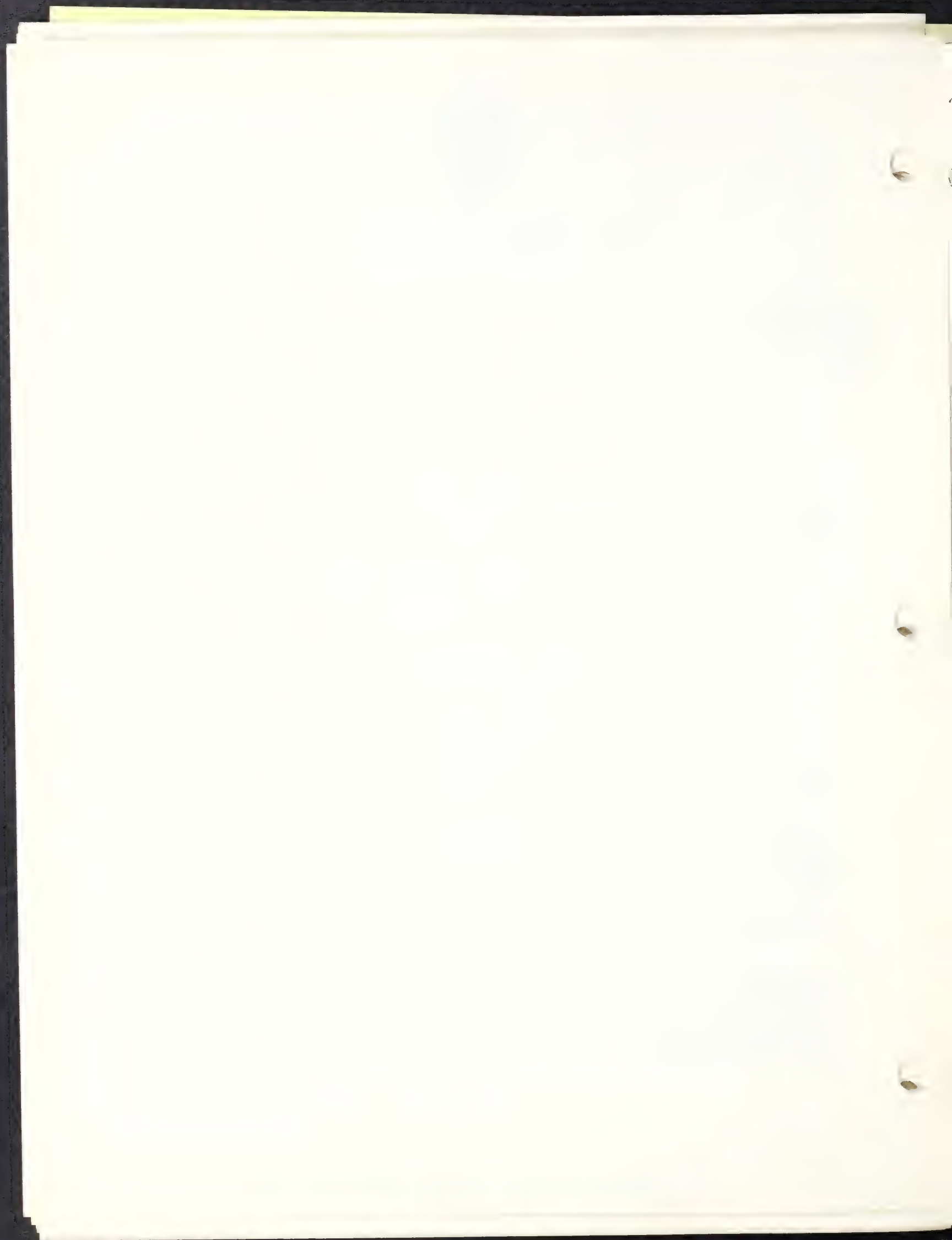
Staff of the Massachusetts Historical Commission have reviewed the Environmental Notification Form for the proposed project listed above.

The project area is considered to possess a likelihood for containing significant archaeological deposits. Since the area has not been systematically examined by archaeologists, no archaeological sites have yet been recorded within the project. In New England, archaeological sites are usually buried in the soil and thus require systematic test excavations to be identified.

The archaeological sensitivity of the project area is principally defined by the project's environmental setting in proximity to Cedar Swamp and the Cedar Swamp Archaeological District which appears to be eligible for inclusion in the National and State Register of Historic Places.

The proposed Toll Barrier 11A/12 project area may contain prehistoric campsites and historic period cultural resources.

MHC requests that an archaeological reconnaissance survey (950CMR 70) be included in the scope of the project EIR in compliance with NEPA and Section 106 of the National Historic Preservation Act of 1966 (36CFR 800). The survey should include a walkover, background study and limited subsurface testing to locate and identify any known or expected archaeological resources which may be affected by the proposed development.



The MHC is willing to assist project proponents in developing an appropriate scope for the survey. If you have any questions, please feel free to contact Jordan Kerber of my staff.

Sincerely,

Valerie A. Talmage

Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

xc: Marie Bourassa, ACE
Westborough Historical Commission
Gary W. Walsh, HNTB
John N. Grim, MTA

VAT/JK/lk



The Commonwealth of Massachusetts

Office of the Secretary of State
Michael Joseph Connolly, Secretary

Massachusetts Historical Commission
Valerie A. Talmage
Executive Director
State Historic Preservation Officer

October 6, 1986

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA Unit

RE: MTA-Mainline Widening Between Interchanges 13 and 14, Weston
EOEA No. 6198A

Dear Secretary Hoyte:

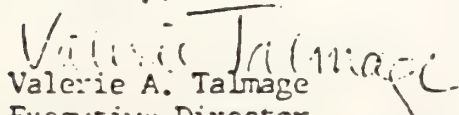
Staff of the Massachusetts Historical Commission have reviewed the Environmental Notification Form for the proposed project listed above.

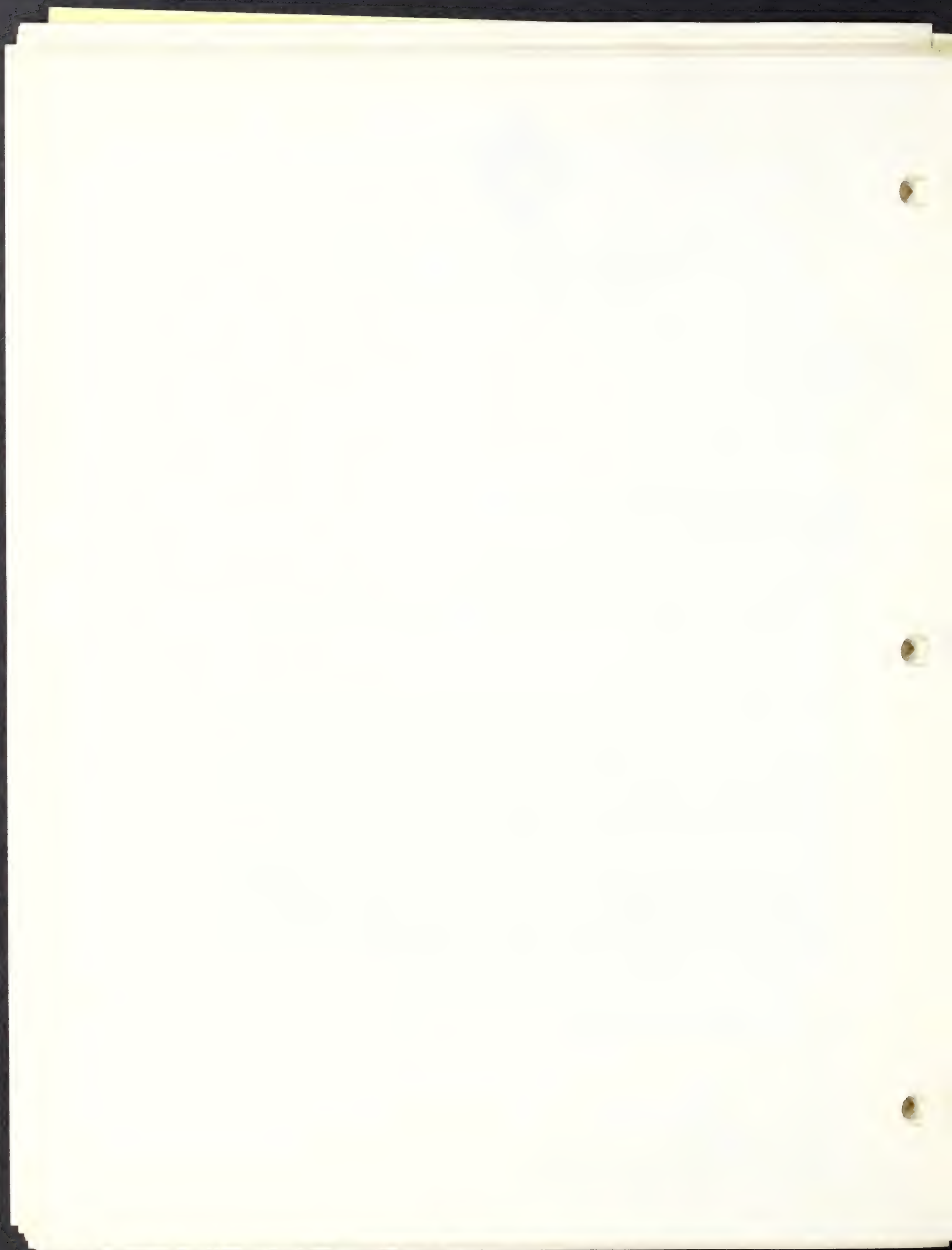
Review of MHC files indicates that an historic complex, Thomas Pierce House and Barn (MHC No. 222 at 500 Wellesley Street, Weston) is located adjacent to the project area between interchanges 13 and 14. The Thomas Pierce House and Barn appear to be eligible for inclusion in the State and National Registers of Historic Places.

The MHC requests that the DEIR address both visual and audible effects of the proposed widening in the vicinity of the Thomas Pierce House and Barn. If the proposed project effects are adverse, mitigative measures to minimize visual and audible effects to this significant historic complex should be considered in compliance with M.G.L., Ch. 9, ss. 26C and 27C, as amended by Ch. 152 of the Acts of 1982 (950 CMR 71) and MEPA.

If you have any questions concerning these comments, please contact Jordan Kerber at this office.

Sincerely,


Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission



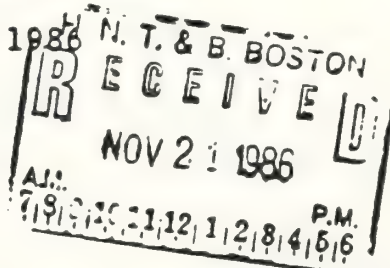


S. RUSSELL SYLVA
Commissioner

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street, Boston 02108

November 18, 1986

Mr. Peter Guldberg
Tech Environmental, Inc.
1660 Soldiers Field Road
Boston, MA 02135



Dear Mr. ^{Peter}Guldberg:

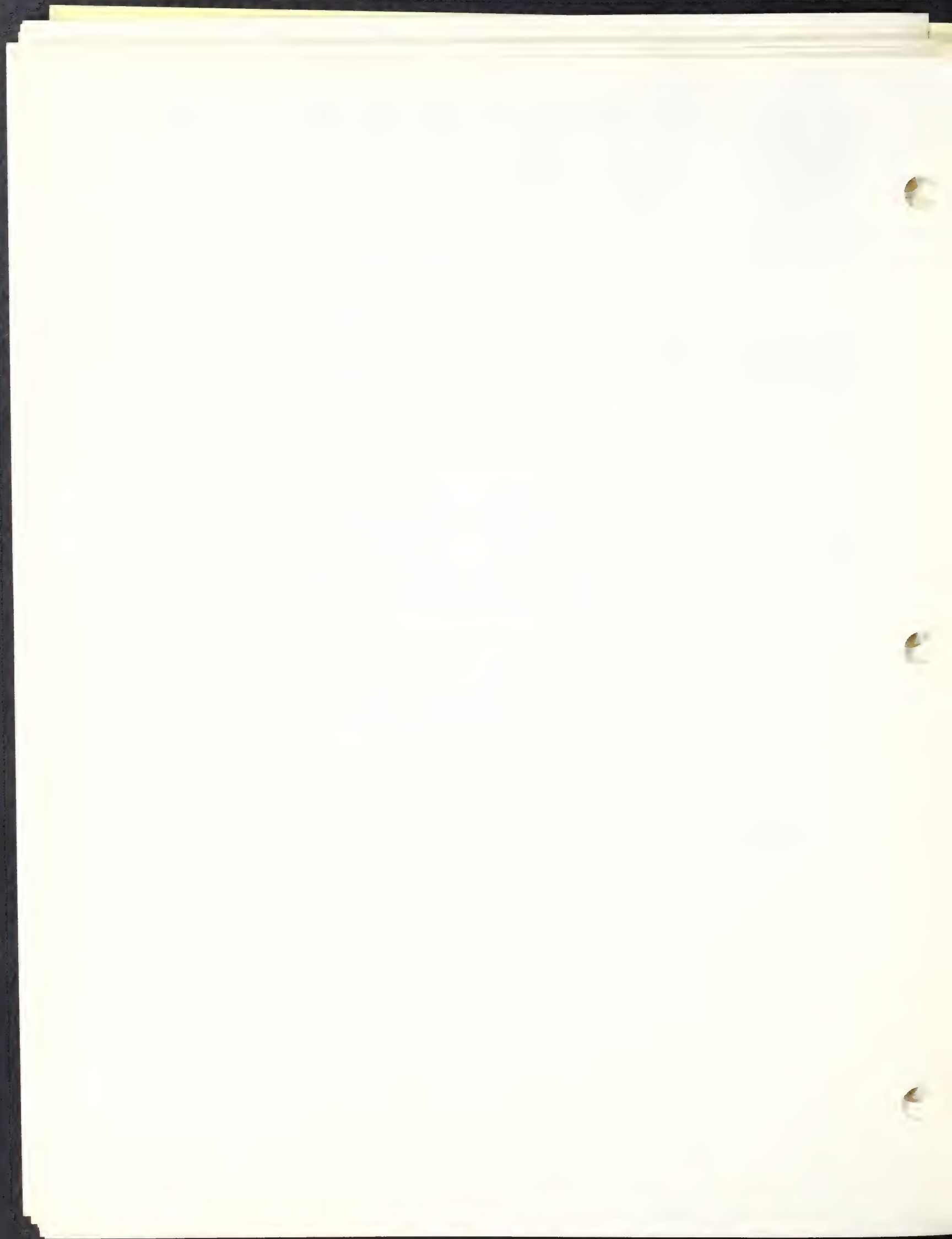
I have reviewed your proposal outlining the procedure to be used in performing both microscale and mesoscale modeling for the MTA projects (EOEA #'s 6198, A, B, C, D and E). Based on this review, I concur with the designated study areas and the mesoscale and microscale modeling protocol with the understanding that proposed sensitive receptor locations for use in the microscale analysis will be submitted to this office for approval.

Very truly yours,

Christine Kirby
Christine Kirby

CK:dep

C- Dave Shepardson - MEPA
Mary Beth Martin - HNTB
Michael Scherer - DEQE/DAQC





S. RUSSELL SYLVA
Commissioner

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street, Boston 02108

March 19, 1987

RECEIVED

Mr. Peter Guldberg
Tech Environmental, Inc.
1660 Soldiers Field Road
Brighton, MA 02135

MAR 20 1987

H. N. T. & B.

Re: MTA Projects EOE
#'s 6198A,B,C, and D

Dear Peter:

I have reviewed your letter regarding the extension of the mesoscale study area and the need for monitoring for the MTA projects. DAQC approves of the expansion of the mesoscale analysis area and commends the proponent for their willingness to assess all potential impacts on air quality from this project. In regard to the need for monitoring for the projects, DAQC is of the opinion that monitoring is not needed at this time given that conservative background numbers are being utilized in modeling. If I can be of further help, please let me know.

Sincerely,

Christine

Christine Kirby

CK/efj.

cc: Michael Scherer - DEQE/DAQC
Dave Shepardson - MEPA
Mary Beth Martin - HNTB

ATTACHMENT 2
LOCAL LIAISON GROUP MEMBERS

7. Public Mtgs
& Workshops

8. Public Hrg.

Local Liaison Group Members

Richard Albrecht
24 Sears Road
Weston, MA 02193

Jean Thurston (Alt.)
Chairperson
Board of Selectmen
Town Hall
P.O. Box 378
Weston, MA 02193

Theresa DiCicco
Mass Pike Citizens Group
34 Dean Road
Wayland, MA 01778

Cynthia Frothingham (Alt.)
Mass Pike Barrier Group
Natick/Wayland/Weston Coalition
12 Brewster Road
Wayland, MA 01778

Marcy Crowley (Alt.)
Board of Selectmen
6 Wayland Hills Road
Wayland, MA 01778

George Wallace
Conservation Commission
139 North Main Street
Natick, MA 01760

William F. Costello
30 Hammond Road
Natick, MA 01760

Rick Taintor, Dir.
Planning Dept.
Memorial Bldg.
Concord Square
Framingham, MA 01701

Fred Sergeant (Alt.)
Town Engineer
Memorial Bldg.
Concord Square
Framingham, MA 01701

Janice C. Conlin
Admin. Asst. to Selectmen
Town House
17 Common Street
Southborough, MA 01772

Charles Gaffney (Alt.)
Chairman, Planning Board
205 Middle Road
Southborough, MA 01772

Dexter Blois
Town Coordinator
Town Hall
34 West Main Street
Westborough, MA 01581

John Walden
DPW Manager
34 West Main Street
Westborough, MA 01581

Rich Citro (Alt.)
227 Flanders Road
Westborough, MA 01581

ATTACHMENT 3

STUDY AREA ROADWAYS FOR TRAFFIC ANALYSIS

7. Public Mtgs
& Workshops

8. Public Hrg.

MASSACHUSETTS TURNPIKE AUTHORITY EIR
STUDY AREA ROADWAYS FOR TRAFFIC ANALYSIS

REGIONAL HIGHWAYS

Mass. Turnpike	I495 to I95
Mass. Turnpike Extension	I95 to I93
Route 20	I495 to I95
Route 9	I495 to I95
Route 135	I495 to Route 16
Route 16	Route 135 to Route I95
I495	Route 20 to Mass. Tpk.
Edgell Road (Framingham)	Route 20 to Route 9
Route 126	Route 20 to Route 135
Route 27	Route 20 to Route 135
I95	Route 20 to Route 135
I93 (Central Artery)	Mass. Ave. to Storow Drive
Route 30	Route 9 (Westborough) to I-95

OTHER ROADWAYS

Union Avenue	Route 135 to Route 9
Edgell Road/Nobscot Road	Route 20 to Route 9
Flanders Road	Near proposed employee driveway
Speen Street	Route 135 to Route 126
Winter Street	
Wellesley Street	
Oak Street (Weston)	

INTERCHANGES

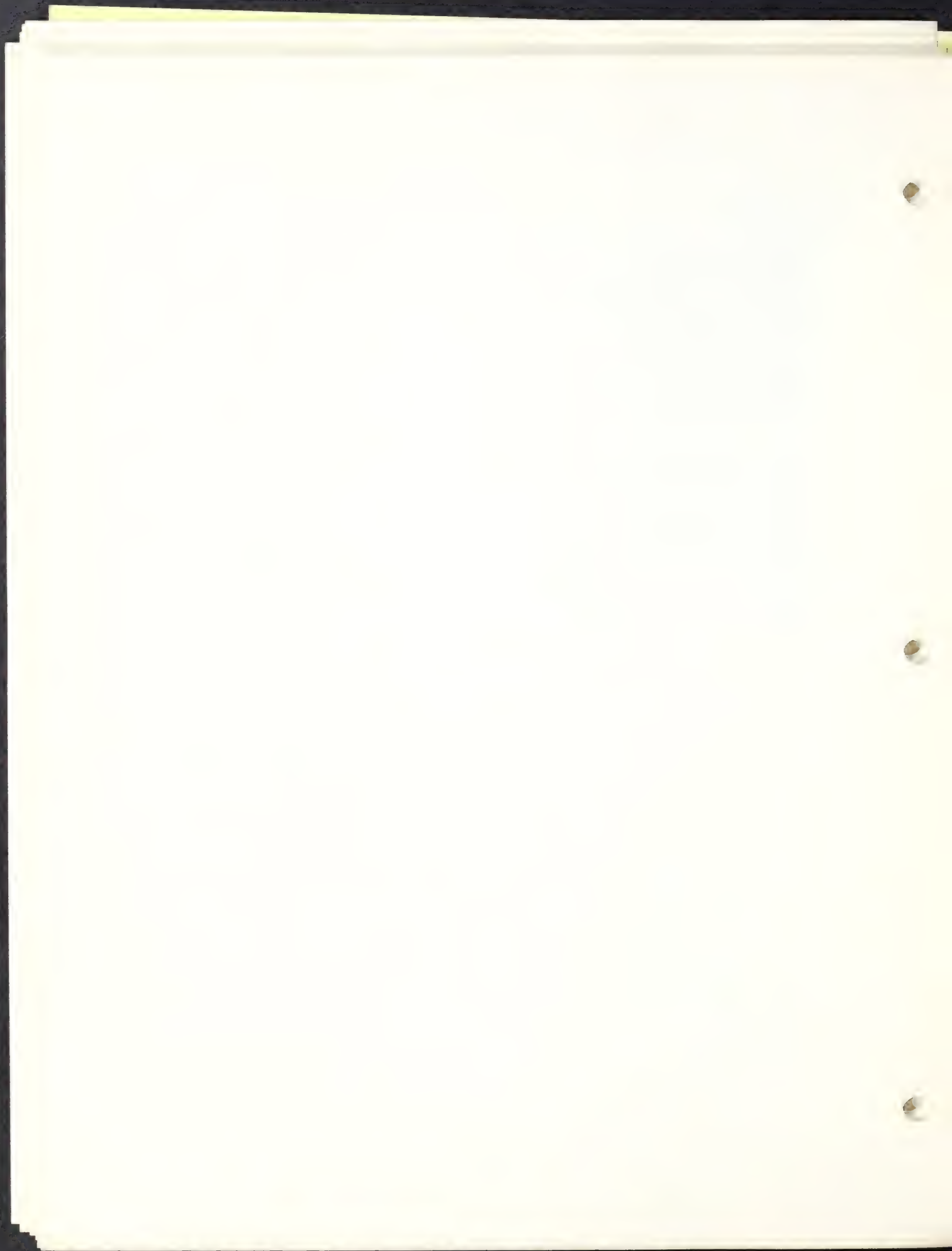
I495 @ Route 20
I495 @ Route 9
I495 @ Mass. Tpk.
MTA Int. 12 (Route 9)
MTA Int. 13 (Route 30)
MTA Int. 14 (I95)
MTA Int. 15 (I95)
Route 20 @ I95
Route 9 @ Route 85
Route 9 @ Route 30, Edgell Road
Route 9 @ Route 126
Route 9 @ Speen Street
Route 9 @ Route 27
Route 9 @ Route 16
Route 9 @ I95
Route 20 @ I95
Route 16 @ I95

INTERSECTIONS

Route 9 @ Route 30
Route 9 @ Caldor Road
Route 9 @ Country Club Lane
Route 20 @ Nobscot Road
Route 20 @ Route 27
Route 27 @ Route 126
Route 135 @ Union Street
Route 135 @ Speen Street
Route 135 @ Route 27
Route 135 @ Route 16

Route 30 @ Route 126
Route 30 @ Speen Street
Route 30 @ Route 27
Route 30 @ Shopper's World
Route 30 @ Newton Street
Route 30 @ Park Road
Speen Street @ Route 126
Flanders Road @ Proposed Employee Driveway

Mass. Tpk. Service Area 8E (Natick)



ATTACHMENT 4

AIR QUALITY MODELLING
LOCATIONS AND CRITERIA FOR SENSITIVE RECEPTORS

MASSACHUSETTS TURNPIKE AUTHORITY EIR
AIR QUALITY MODELLING LOCATIONS AND CRITERIA FOR SENSITIVE RECEPTORS

Modelling Locations

Air quality parameters will be established at the following emissions sources:

- (1) New barrier toll
- (2) Intersection of new barrier toll employee driveway with local road
- (3) Exit 12 tolls (Route 9)
- (4) Route 9/Country Club Lane
- (5) Exit 13 tolls (Route 30)
- (6) Route 30/Speen Street
- (7) Route 30/Shopper's World Driveway
- (8) Route 30/Route 126
- (9) Route 30/Route 27
- (10) Exit 14 tolls (Route 128/I-95)*
- (11) Exit 15 tolls (MTA Boston Extension)*
- (12) Route 30 (Weston)/Newton Street*
- (13) Route 30 (Weston)/Park Road (MTA Exit Ramp)*
- (14) MTA Service Area 8E (Natick)
- (15) I-90 free-flow section in Southborough
- (16) I-90 free-flow section in Framingham
- (17) I-90 free-flow section in Natick
- (18) I-90 free-flow section in Weston
- (19) I-90 free-flow section in Wayland
- (20) Alternative location for Barrier Toll 11A/12

* These four intersections will be modelled as one interchange including the I-95/Rte. 128 mainline

Identification of Sensitive Receptors

Purpose: The microscale analysis will identify potential increases in CO on a set of sensitive receptors in the vicinity of each of the emissions sources.

Criteria: Sensitive receptors are residences and major public gathering places where people may be affected by CO emissions from vehicles. The area of potential CO impact is typically limited to 1/2 mile from the sources of emissions.

Identification: Initial identification will include sensitive land uses in the immediate vicinity of the intersections and roadway links. For intersections, these will include uses adjacent to the roads for the lengths of the traffic queues. Staff of DEQE, Division of Air Quality Control will review and approve the receptors to be analyzed.

7. Public Mtgs
& Workshops

8. Public Hrg.



ATTACHMENT 5

PRELIMINARY NOISE MEASUREMENT AREAS

MASSACHUSETTS TURNPIKE AUTHORITY EIR

PRELIMINARY NOISE MEASUREMENT AREAS

Weston - Residential

- Orchard Avenue
- Corwood Drive
- Oak Street
- South Avenue
- Winter Street

Weston - Other

- St. Demetrious Church
- Weston High School
- Weston Jr. High School
- Thomas Pierce House and Barn
- Nursery School - South Avenue

Wayland - Residential

- Valley View Road/Dean Road Area
- Haven Lane
- Route 30 adjacent to Turnpike
- Clubhouse Lane

Natick - Residential

- Commonwealth Road
- Oak Knoll Road
- Evans Drive
- Pine Street
- Cypress Road
- Winter Street
- Hammond Road/Avenue
- Main Street (North and South)
- Langdon Road
- Road off Pine
- Wayland Town Beach (North Lake)
- Oak Street (from Pine to Route 30)
- Nancy Road
- Rivers Country Day School

Natick - Other

- Church of Christ
- Cochituate State Park
- Church on Oak Street
- Camp Mary Day

Southborough - Residential

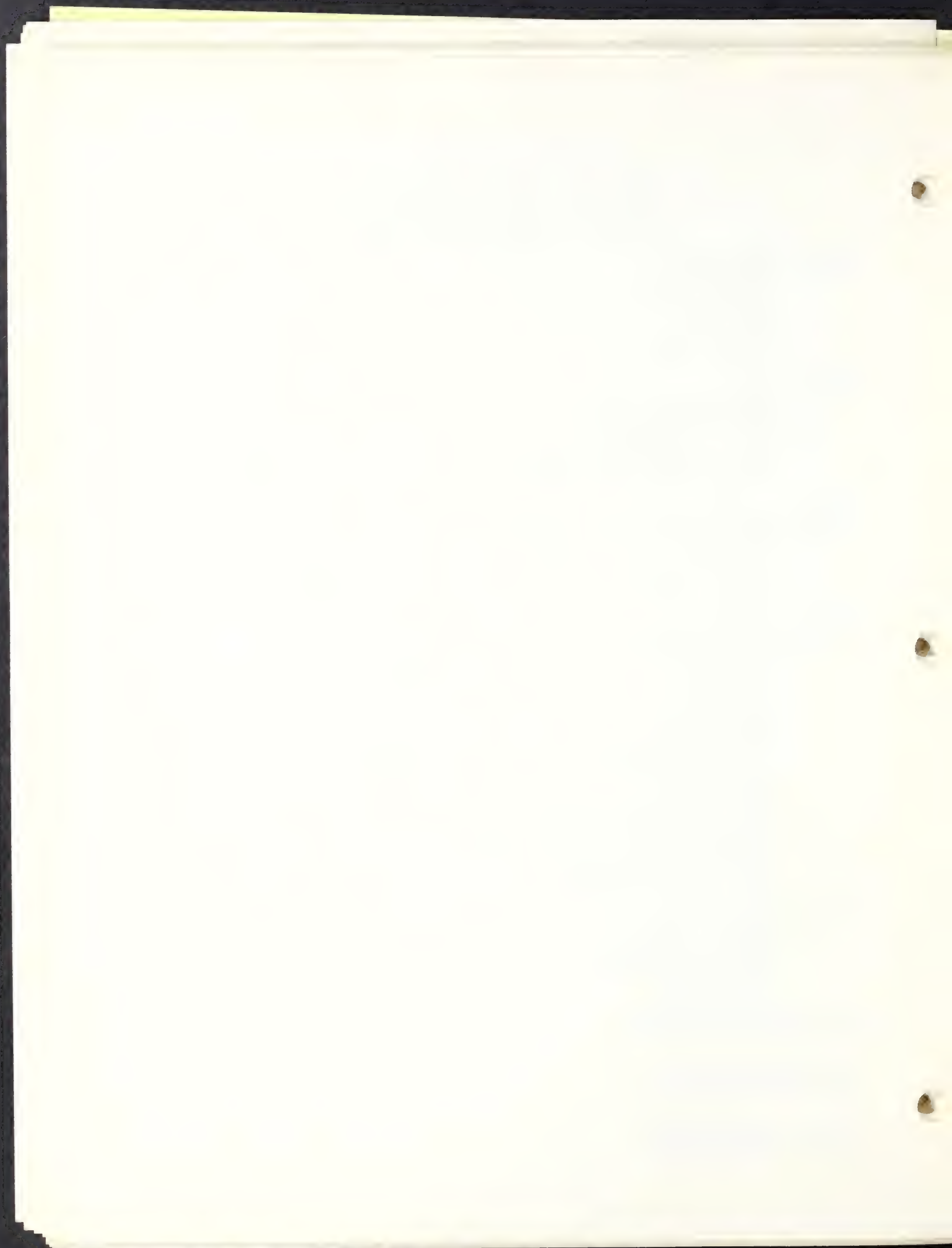
- Gilmore Road

Southborough - Other

- Mary Finn School

Westborough - Residential

- Flanders Road



ATTACHMENT 6

SURFACE WATER MONITORING PROGRAM

MASSACHUSETTS TURNPIKE AUTHORITY

SURFACE WATER MONITORING PROGRAM

Sampling Locations

1. Seaverns Brook at Route 128/I-95 and the Turnpike (Weston)
2. Nonesuch Pond at outlet (Weston)
3. Snake Brook (Wayland)
4. Lake Cochituate, North Pond (Wayland)
5. Cochituate Brook (Framingham)
6. Sudbury River (Westborough)
7. Intermittent tributary of Nonesuch Pond (Wayland)
8. Unnamed stream, upstream of High School complex (Weston)
9. Unnamed stream, downstream of High School complex at Blaney property (Weston)
10. Unnamed stream, downstream of High School complex immediately north of Turnpike at conduit (Weston)

Sampling Schedule

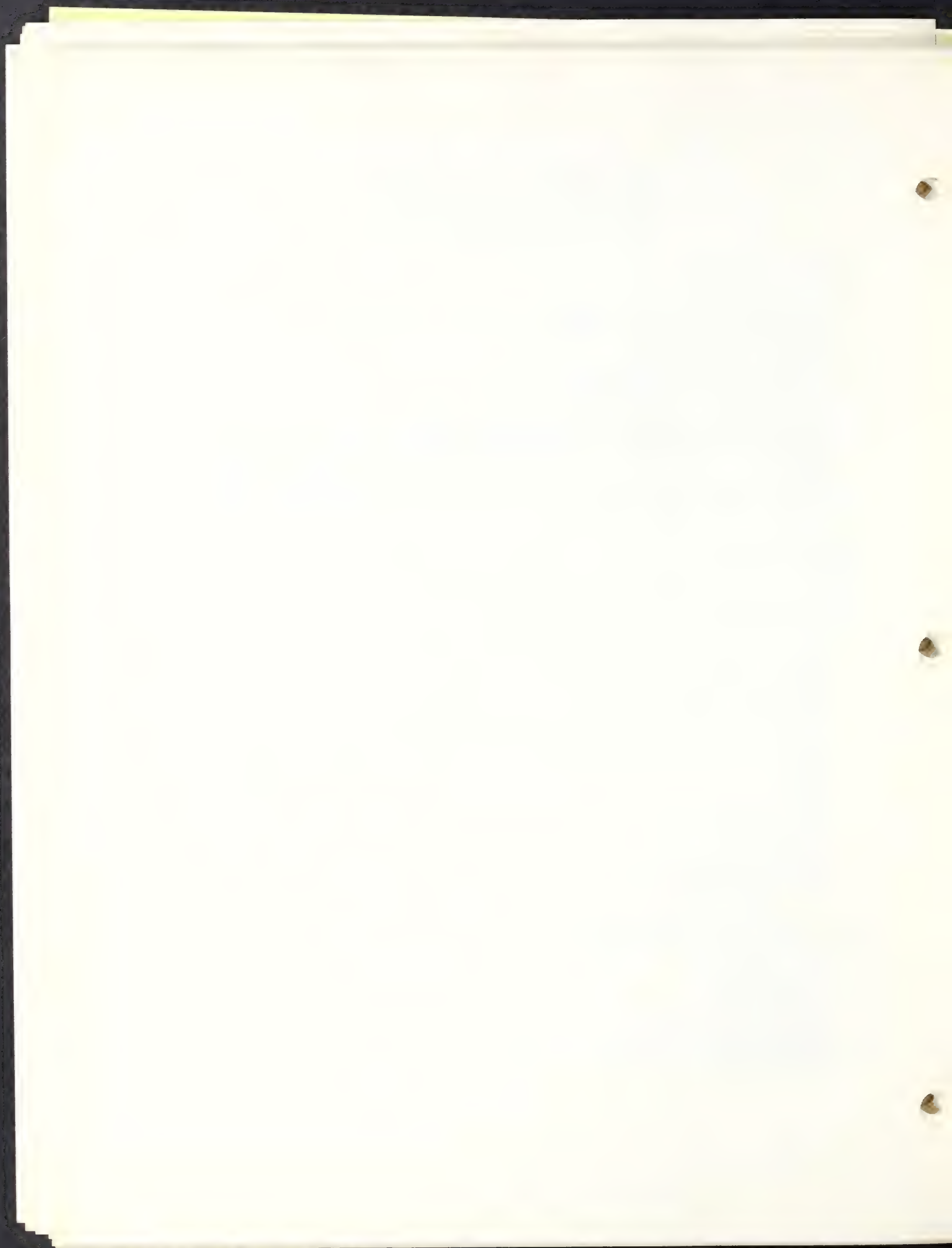
Biweekly for eight months (November through June)

Analysis parameters

pH
Specific Conductance
Ammonia Nitrogen
Chloride
Sodium
Lead
Zinc
Iron
Cadmium
Oil and grease
Iron
Total Phosphorus
Nitrate Nitrogen
Suspended solids

Impact Evaluations will be conducted on the following:

1. Lake Cochituate
2. Nonesuch Pond
3. Seaverns Brook
4. Sudbury River
5. Groundwater aquifers in Natick, Weston and Westborough
6. Charles River
7. MWRA Reservoir No. 3



ATTACHMENT 7
RECREATIONAL FACILITIES INVENTORY

7. Public Mtgs
& Workshops

8. Public Hrg.

MASSACHUSETTS TURNPIKE AUTHORITY EIR
RECREATIONAL FACILITIES INVENTORY

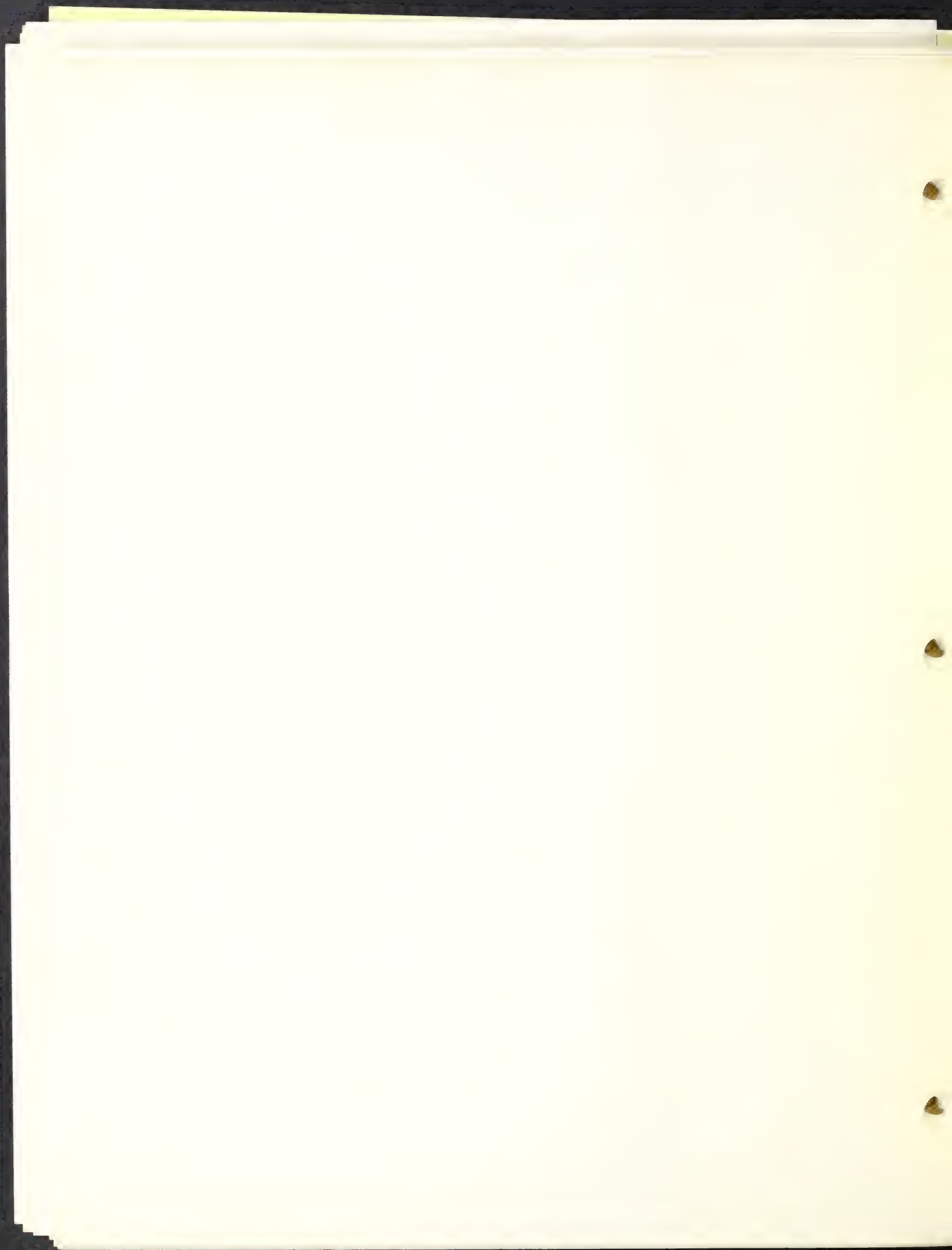
These facilities will undergo an initial screening to identify those which are currently affected by the Turnpike or which may be affected in the future. The initial inventory of recreational facilities will include, at a minimum:

Finn School, Southborough
South Union School, Southborough
Cochituate State Park, Framingham, Natick and Wayland
Bennett-Hemenway School, Natick
Camp Mary Day, Weston
Rivers School, Weston
Weston High School
Weston Junior High School
Pine Brook Country Club, Weston
Weston Park Golf Course (MDC)
Charles River, Weston and Newton
Framingham Country Club
Winch Park, Framingham

DRPT4/DOC. #3

7. Public Mtgs

8. Public Hrs



7. Public Mtgs
& Workshops

8. Public Hrg.



